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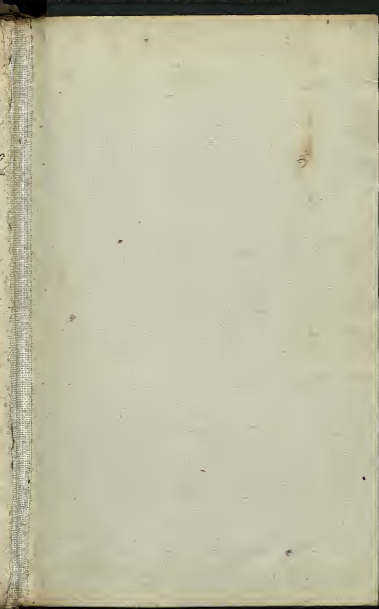
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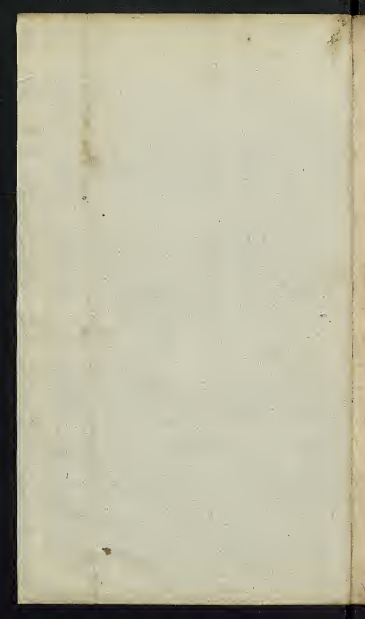
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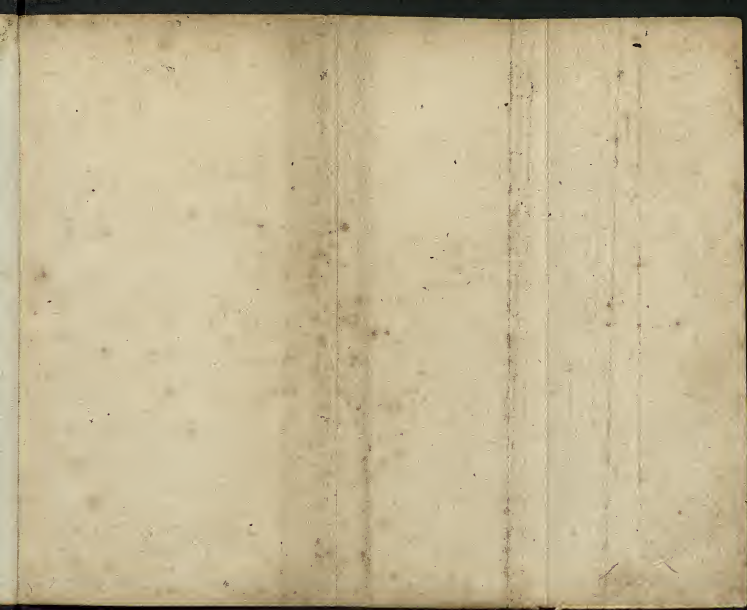
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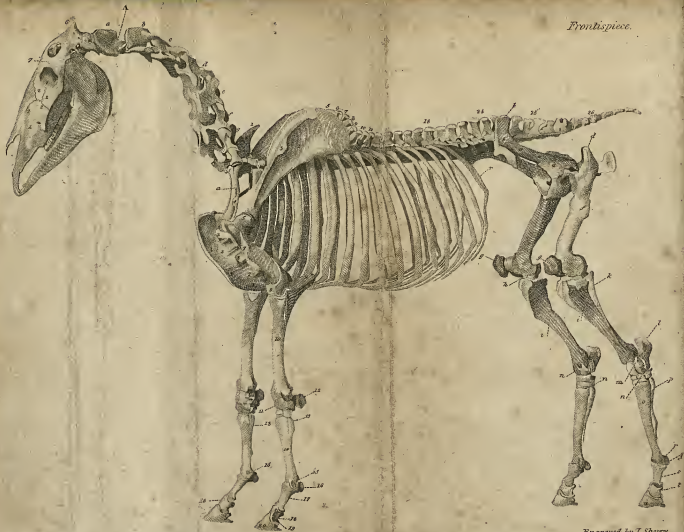
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Frontispiece.



For description see c

see Book

Engraved by J. Shury

Skeleton of the Horse.

A
COMPENDIOUS DICTIONARY
OF THE
VETERINARY ART:

CONTAINING
A CONCISE EXPLANATION
OF
THE VARIOUS TERMS USED IN VETERINARY
MEDICINE AND SURGERY:

ALSO,
A short Description
OF
THE ANATOMY OR STRUCTURE OF THE EYE,
THE FOOT,
AND OTHER IMPORTANT PARTS OF THE HORSE.

WITH
PRACTICAL OBSERVATIONS ON HIS DISEASES,
As well as those of other Domestic Animals.

BY JAMES WHITE,
VETERINARY SURGEON,
AUTHOR OF A TREATISE ON VETERINARY MEDICINE.

WITH A FRONTISPIECE.

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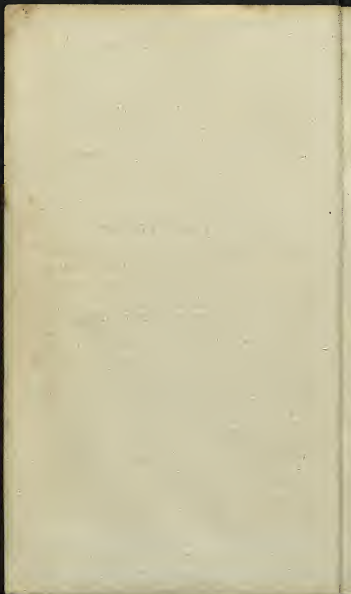
SAMUEL WHITE, ESQ.

THIS DICTIONARY IS DEDICATED,

BY

HIS AFFECTIONATE BROTHER,

THE AUTHOR.



A

DICTIONARY
OF THE
VETERINARY ART.

ABDOMEN. That part of an animal commonly named the Belly. This cavity contains the intestines or bowels, liver, kidneys, &c. It is separated from the cavity of the thorax or chest by the diaphragm, midriff, or skirt. Wounds of the abdomen are not unfrequent in horses and cattle; they are generally dangerous and sometimes fatal. See *Wounds of the Belly*.

ABORTION. Miscarriage, slipping or slinking the foal or calf. Mares, when far gone with foal, if overworked or improperly ridden, are liable to miscarriage: it is caused also by the accidents which sometimes happen at grass; such as falling into a ditch or pit, and struggling to extricate themselves; or being kicked in the belly. In cows, slipping calf is sometimes caused by the smell of blood, carrion, or any putrid animal matter; and the slinking of one cow is apt, from this circumstance, to be communicated to others. As soon therefore as any symptoms of approaching abortion are observed, it is proper to separate the cow from the rest of the herd. The first appearances are generally a sudden filling of

the udder, a loose and flabby appearance of the genital parts, which discharge a little red-coloured fluid: the animal appears also to be indifferent in grazing, and sometimes shows signs of uneasiness or pain. Cows in good condition are most liable to abortion; and it is well known, that milk fever or inflammation of the womb, often a fatal disease in cows, seldom attacks such as are rather lean than fat at the time of calving. It has been observed, that cows more frequently slip their calves at the latter end of the year, than at other times. A cow that has once slipped calf becomes more liable to the accident in future; and as often as the accident happens, so does the liability to it increase; it is of importance therefore, when a cow has slipped, to remove carefully the cleansings or after-birth, and never to suffer blood, carrion, or any kind of dead animal matter to be taken into the pasture where pregnant cows are kept. Various means have been recommended for preventing abortion; that is, when those appearances which indicate its approach are observed. Bleeding, I believe, is the best, if not the only preventive; more especially when it is caused by bruises or over exertion, or in violent struggling, or being driven about and hurried. And in such cases, not less than from four to six quarts of blood should be taken off, according to the strength of the animal. When the symptoms of approaching abortion appear to arise from other causes, when cows appear stupid, chewing the cud languidly or not at all, an opening drench should also be given. Take half a pound of sulphate of magnesia (Epsom salt), three or four drams of aloes in powder, and about three pints of warm gruel—one dose. After abortion has taken place, the cow should be kept in a sheltered place by herself; if the after-birth has not passed off, that is, if she has not cleansed, as it is

commonly termed, no force or medicine should be used to hasten its removal. The various drenches that are employed for this purpose, as well as those to prevent abortion, are always useless, sometimes injurious. The same treatment is applicable to mares that have slipped foal.

ABSCESS. A swelling, generally produced by a bruise, or other external injury; sometimes, however, it arises from other causes, as in strangles. The swelling is at first hard and painful to the touch, but gradually becomes softer from the upper part towards the bottom. When the whole of the tumour feels soft and elastic, that is, yielding to the pressure of the finger, but immediately rising again when the finger is removed, it is said to be ripe, and may be opened with a lancet, or other convenient instrument: a whitish-coloured matter will then flow from it, nearly as thick as cream; this is termed *pus*. When the extent of the cavity has been ascertained, by means of a probe or the finger, the whole is to be laid completely open. By this method all the pus will freely escape, and merely by washing it twice a day with warm water, it will soon get well, without further trouble; but if, according to the common mode of treatment, only a small opening is made, the matter then pressed out by squeezing with the fingers, in which operation the neighbouring parts are often bruised and inflamed, and the cavity filled with tow dipped in some digestive ointment, the cure is protracted, and often either a fresh abscess forms, or the matter, from being confined, spreads into other parts, so as to form what are termed sinuses or pipes. To hasten the process of suppuration, or the formation of matter, poultices are the best applications; but they should be renewed at least twice a day. When poultices cannot be conveniently used, fomentations should be substituted for them.

An abscess should not be opened too early, or before the whole of the tumour has become soft; when this does not happen as soon as is expected, the bottom of the tumour remaining hard while the upper part feels soft, it is better to continue the poultice until the whole has become soft, or the upper part opens naturally: this natural opening is to be enlarged, should it be found necessary; and the poultice continued, in order to soften or induce suppuration in the remaining hard swelling. When sinuses or pipes are discovered, they are to be laid completely open, and washed with a solution of blue vitriol or other detergent fluid. Abscesses sometimes form internally, as in the lungs, liver, &c. and are then generally fatal; in such cases all medicines and operations are useless. (See *Poultice, Fomentation, Tumours, Strangles, Vives, Fistula, Poll-evil, and Ulcers.*) Abscesses are sometimes said to be critical, or a consequence of fever or some other general indisposition; in which case they have been thought beneficial.

ABSORBENTS. Chalk, prepared oyster shells, bole, and other earths, that readily absorb fluids, are thus denominated. Preparations of this kind are sometimes given with a view to absorb or correct any hurtful matter that may be supposed to exist in the stomach. In cases of depraved appetite, for example, where horses eat their litter in preference to good hay, and are often seen licking the walls, and eating any earthy matter that comes in their way, such medicines are recommended. It is more probable, however, that this disposition depends upon a diseased state of the stomach, and that mild purgatives are the best remedies.

ABSORBENT Vessels. Small transparent vessels, supposed to exist in every part of the body; their office is to absorb any useless fluid, or other matter

that may be in the cavities or other parts of the body. They are distinguished into Lacteals and Lymphatics; which see.

ACIDS. Bodies that have a sour taste. See *Treatise of Veterinary Medicine*, vol. ii.

ACOPUM or **ACOPON.** A remedy for weariness said to have been used by Hippocrates. It is a strange farrago, consisting of about thirty ingredients, among which pigeons' dung makes a conspicuous figure.

ÆGYPTIACUM. The following is the method of making this liniment, so much used by farriers as a detergent in foul ulcers:—Take five ounces of powdered verdigris, one pound of honey, and seven ounces of vinegar; boil all together, until it is of a deep red colour and as thick as honey.

AGARIC. A fungous substance, growing on the oak and other trees, in the form of a horse's hoof. On the outward part it is of a dusky ash colour, internally of a dusky red. Agaric has been thought useful as a styptic; but at present is seldom if ever employed, as more effectual means may on all occasions be found. See *Styptics*; and *Bleeding, to stop*.

AGE. A horse's age may be known by the front teeth of the lower jaw until he is in his eighth year, after that some judgment may be formed of his age by the front teeth of the upper jaw until he is about twelve or thirteen. These latter marks, however, are not to be depended upon like the former; but if, at the same time, the horse's countenance be considered, with some other marks we shall point out, an experienced person will be seldom led astray by them. When a colt is foaled, he has no teeth in the front of his mouth, but in a few days two above and two below make their appearance, and soon after them four others: after this, it is generally three or four months before the corner teeth, as they are

termed, appear. These twelve teeth in the front of the mouth, are small and white, and continue without alteration until the colt is about two years and a half old, when he begins to shed his teeth. The two front teeth, above and below, being the first that made their appearance, are the first that fall out; the new or permanent teeth, distinguished also by the name of horses' teeth, are considerably stronger and larger than the foal or colts' teeth. Between the third and fourth year, the two teeth next them, above and below, fall out, and are replaced in like manner; and between the fourth and fifth, the next or corner teeth are changed. The horse is now said to have a full mouth of permanent teeth. During the fourth year, the tusks or tushes appear; though sometimes, but rarely, they appear before the fourth year. The four front teeth arrive at their full size in two or three weeks, but the corner teeth do not grow so quickly, being at first but just above the gums, and filled with flesh on the inside. At five, this fleshy appearance is lost, but these teeth continue for some time much less than the others, and they seldom lose their shell-like appearance until five and a half, when they have a cavity of a dark colour on their upper surface, like the other teeth. At six years, the dark-coloured cavity is much diminished, appearing something like the eye of-a bean, that has advanced in length; still the mark or cavity is very conspicuous. At seven, the corner teeth have become a little longer, and the mark smaller. At eight, the mark is lost. After this period, you judge of the age by the marks or cavities in the upper teeth. About ten, the two front teeth have lost their marks, the two next have but little left, but in the corner teeth they are readily seen; but these gradually wear out, and during the twelfth year are totally erased. The tushes, like the teeth, are gradu-

ally changing their form: at first they are small, sharp, and shell-like, having a remarkable concavity on their inner surface, but gradually become larger and longer: the concavities on their insides also lessen: at about eight they are nearly lost. At about twelve, sometimes earlier, the inside of the tush begins to approach towards a round form, and after that gradually becomes quite round, blunt at the top, and of a yellow colour. About the age of fourteen or fifteen, white hairs often appear above the eyes, and gray horses become lighter in colour, and when very old they become white. The teeth of horses, as they advance in years, become longer and more oblique in their position: they acquire also a yellowish colour. The figures I have annexed to this article may be found a useful remembrancer by those, who wish to learn the method of discovering the horse's age by the mouth; that is, it may enable them to recollect the progressive changes which the teeth undergo; nothing, however, can make them familiar with the subject, but an attentive and frequent examination of the horse's mouth. Horse-dealers are said to practise numerous artifices in order to deceive the inexperienced with respect to a horse's age. One of them consists in pulling out the corner teeth of a four-year old to make him appear five; for when the corner teeth are thus removed before their time, they are soon succeeded by horse's teeth: this artifice is often practised. Another trick is termed *bishopping*; that is, making artificial marks in the corner teeth when the natural marks are worn out. The first artifice may be detected by the want of tushes; the second by the want of resemblance between the natural and artificial mark, the state of the tushes, and general appearance of the teeth; in horses past twelve, the marks in the upper teeth also may assist in its detection. When

a horse becomes gray over the eyes through age, some fine powder of a suitable colour may be readily procured to conceal it. When the pits over the eyes are remarkably sunk and hollow, it is said that a small incision is made in the skin, and the smallest tobacco-pipe stem, or quill, introduced, and the membrane underneath inflated, so that the hollow parts are filled up with air; but this, I believe, is seldom if ever practised; and as to filing down the teeth, it is impracticable.

Age of Cattle. The age of neat cattle is known by their horns. Till the third year their age is sufficiently indicated by their general appearance; they then change their horns for a permanent pair; these have a kind of button or circular protuberance of horn at the end next the head: the following year the button is impelled forward by the new shoot of horn, which has a button next the head like the former. The same process takes place annually during the animal's life. These protuberances take the form of a ring round the horn, which is easily distinguished, and by which the age is known; counting three years for the point of the horn, and one for each ring.

Age of Sheep, is known by their teeth. In their second year they have two broad teeth before; in their third year they have four; in the fourth, six; and in the fifth, eight. After this period the age cannot be accurately known by the teeth. The age is indicated also by their horns, which are not changed as in the cow, but have an additional ring every year; only one year is to be counted for the point of the horn. The age of the goat is known in the same way, and that of deer by an additional branch appearing every year in the palm of their antlers, or horns. See *Teeth*.

ALCOHOL, or ALKOHOL, or highly rectified spirit

of wine, is much used in making tinctures and other preparations used in medicine.

ALE, a well-known fermented liquor often given as a cordial to horses and cattle. To the former it may be given with advantage in long journeys or after unusual fatigue; about a pint, in which a cordial ball may be mixed, is sufficient for a dose. To cattle it is more frequently given, often perhaps improperly, being commonly employed by cattle-doctors, or *leeches*, as they were formerly named, as a vehicle for their medicines, of whatever quality they may be, or for whatever disease they may be given. See *Cordials*.

ALIMENT. See *Diet*.

ALIMENTARY CANAL. See *Intestines*.

ALOE. A plant which affords the purging gum of the same name. It has been said, that the best grow in India, but all Asia produces excellent plants; they are also produced in other warm climates, as in the West Indies, &c.

ALOES. An inspissated gum with a small proportion of resinous matter, extracted from the aloe plant. Three kinds of aloes are generally kept in the shops; the Succotrine or Socotrine, the Barbadoes, and the Cape. The first is by many considered the best sort, being thought milder, and less liable to gripe; for many years however I have used only the Barbadoes, after having given a fair trial to all of them. Succotrine aloes is of a reddish brown colour, and of a more agreeable smell than the others. Barbadoes aloes is imported in large gourd shells, is of a dark brown colour, and of a stronger smell than the former. Cape aloes has a more resinous appearance than the others, more brittle and transparent. This sort is much cheaper than the former, and very uncertain in its effect. See *Treatise on Veterinary Medicine*, vol. ii.

ALTERATIVES. A class of medicines which act very gradually on the system, without any sensible in-

crease or diminution of the natural evacuations; of this kind are antimony, cinnabar, Ethiop's mineral, sulphur, &c. See *Treatise on Veterinary Medicine*, vol. ii.

Alteratives are convenient, as they do not prevent a horse from working, and may generally be given in the form of powder mixed with bran or corn. I am inclined, however, to doubt the efficacy of those alteratives, that do not sensibly affect either the kidneys or bowels; but have given small doses of diuretic medicine daily, so as to increase the urine moderately, with good effect, particularly in coughs or imperfect wind, and swelling of the hind legs.

ALTHEA or *Marshmallow*. A plant of little medical power, but sometimes used in emollient fomentations and poultices. An ointment of althea is kept in the shops, for which hogs' lard may very properly be substituted.

ALUM. A mineral salt, possessing a considerable astringent power. It is used inwardly in doses from half an ounce to an ounce, and is applied occasionally to ulcers, either dissolved in water, or reduced to a fine powder, and sprinkled on the part. When put over the fire in an iron ladle, it melts and gives off a great deal of watery vapour. By this process it becomes stronger, and is named Burnt Alum, or more properly Desiccated Alum.

AMAUROSIS. A total blindness without any altered appearance of the eye. See *Eye, Diseases of*.

AMBER. A salt and an oil are obtained from this substance; the latter has been much employed as an ingredient in *strain oils*, as farriers and grooms term such compositions. It has been used also internally as an antispasmodic in flatulent colic, in doses from half an ounce to an ounce; but for both these purposes more efficacious remedies may be found. See *Strains and Colic*.

AMMONIA, *Carbonate of; Prepared Ammonia, Volatile Salts, or Salt of Hartshorn.* This is a powerful stimulant. The dose from one dram to two. When dissolved to saturation in water, it is named Liquid Ammonia, Water of Ammonia (or Spirit of Sal Ammoniac); and is often used externally mixed with oil, camphor, &c. to disperse indolent swellings, and in some cases of strains and bruises. There is a much stronger preparation of ammonia kept in the shops, under the name of Liquor of pure Ammonia. This, when applied alone, is capable of blistering the skin; for all veterinary purposes however, that which we have before described is sufficiently strong.

AMMONIA, *Muriate of, or Crude Sal Ammoniac.* A neutral salt, composed of ammonia and the muriatic acid. It is seldom given internally; but, dissolved in vinegar, has been employed in strains and bruises.

AMMONIACUM, GUM, has been used with advantage in chronic cough, generally joined with squills, sometimes also with camphor and other antispasmodics. It is classed with expectorants, and given in doses of about half an ounce. When the inferior kind commonly kept in the shops is employed, some allowance must be made for the extraneous matter it contains. The purest kind is named Drop Ammoniacum.

ANASARCA. That form of dropsy in which the whole or great part of the body is affected by watery swelling. See *Dropsy*.

ANATOMY, is the art of dissecting, or taking to pieces and examining the several parts of which an animal is formed, in order to know their relative situations, their structure, and the functions they perform.

ANBURY, or AMBURY. A soft spongy tumour, some-

times met with in horses and cows. They are of various sizes, sometimes less than a mulberry, which they often resemble in colour; at others, as large as an apple of the middle size. They generally appear about the nose, but are found sometimes in other parts of the body. When wounded they bleed freely; therefore farriers generally attempt the cure by some escharotic application. The following has often proved successful:

Powdered alum, two ounces.

Water, one pint.

Sulphuric acid, one dram.—Mix.

When they are small and numerous, or if they have a wide base, this application may be safely used, particularly when professional assistance cannot be procured. If the tumour should be attached to the body by a slender neck, it may be cut off with perfect safety; and if there should be occasion to stop the bleeding artificially, a circumstance I have never known, the red-hot iron may be applied for this purpose. After the anbury has been removed, the part should be touched with lunar caustic for three or four days, to prevent the tumour from growing again.

ANCHYLOSIS. A stiff joint: this sometimes happens to horses in consequence of wounds or bruises. Firing, or blistering, is the remedy usually employed, but often ineffectually. In bad spavins and ring-bones, there is generally an anchylosis of the hock and pastern joints. See *Wounds of Joints, Bruises, Spavin, and Ringbone*.

ANEURISM. A tumour consisting of an enlarged or dilated artery: this disease rarely occurs, I believe, either in horses or cattle.

ANGLE BERRIES. See *Warts*.

ANISEEDS are often used in cordial and carminative balls or drenches; they are generally mixed

with ginger, caraway seeds, &c. The dose from one to two ounces. See *Cordials* and *Carminatives*.

ANODYNES. Medicines which assuage pain, the principal of which is opium. Hemlock, Deadly Nightshade, and Belladonna, possess also an anodyne quality, but are less certain in their effect than opium. See *Opium*, *Belladonna*, *Hemlock*, and *Deadly Nightshade*.

ANTHELMINTICS. Medicines which destroy or remove worms from the body. See *Worms*.

ANTICOR. A disease that appears to be but little known in this country, and has been so variously described, that the name seems to have been applied to different diseases. According to Solleysel, "it is a dangerous sickness arising from redundancy or inflammation of the blood; it is known by a swelling in the breast, just opposite to the heart, from whence the word anticor (*anticœur*) is derived. Before the swelling appears, the horse groans, hangs down his head, and refuses his food:" he says, "if the swelling ascends to the throat, it is present death." M. de Saunier informs us, "that this disorder is mortal to horses if not soon relieved, especially in hot countries, where twenty-five at the least die out of thirty that are seized with it. In Holland it is just the reverse, for out of thirty it is a chance but twenty-five recover, if *properly* treated.—It is known," he says, "by a swelling under the belly, extending from the sheath or udder quite up between the forelegs." Gibson, in his *Farrier's New Guide*, considers it as "an inflammation of the gullet and throat." With respect to the treatment of Anticor, all writers seem to agree in the propriety of bleeding *freely*, and giving glysters, if the horse happens to be costive; after this, a variety of cordial medicines are recommended, the principal of which are Venice treacle and ale. When the symptoms begin to abate, a purgative is ad-

vised. With regard to the swelling, Gibson directs ripening cataplasms, made of linseed meal, fenugreek powder, &c. with cow-dung and suet, to be applied to the swelling. One part of M. de Saunier's *proper* treatment consists in putting "a broomstick under the horse's belly, which two men must hold at the ends, and rub it backward and forward *very hard*." I have often met with dropsical swellings, such as these writers describe, accompanied with fever and loss of appetite; sometimes the swelling and fever are but slight, at others they have assumed a very serious appearance, and in two instances I have known them prove fatal. See *Dropsy*.

ANTIDOTE. Medicines that prevent or remove the effects of poison: when a horse has been maliciously poisoned by arsenic, or corrosive sublimate, a solution of soap in some mucilaginous fluid, such as infusion of linseed, should be given freely; oil and salt of tartar have been recommended also, and the liver of sulphur (sulphuret of potash). The poison generally employed to destroy dogs is nux vomica: when a dog has been seen to swallow this poison, an emetic given soon after will effectually prevent any ill consequence. I have known it succeed even after the convulsions, which nux vomica occasions, had commenced. Emetic tartar, turpeth mineral, or salt, are more certain in their effect than other preparations, and should be given in rather larger doses than are usually employed. See *Emetics*.

ANTIMONY. A medicine much used in farriery: it is variously prepared, and though some of the preparations formerly employed are now thought by many veterinary practitioners unnecessary, and I am inclined to believe they are so, the following account of them may not be uninteresting:

1. *Antimony* or *Sulphuret of Antimony*. A black, shining mineral, composed of sulphur and a peculiar

metal, which, by a chemical process, may be separated from it. When finely powdered or levigated, it is considered a good alterative medicine, and is commonly employed in the diseases named Surfeit and Hidebound. It is often given merely with a view to improve the horse's appearance, that is, to give him a fine glossy coat; it is generally recommended also for those diseases of the skin which cause a horse to rub himself against the stall, &c. Sulphuret of antimony is certainly an *innocent* medicine in the horse, but its efficacy has been doubted on account of its apparent inertness. The common dose is about an ounce; it may be given, however, in larger doses with safety. See *Rees's Cyclopædia*, art. *Antimony*.

2. *Crocus of Antimony*, or *Liver of Antimony*. This is said to be more active than the former, and certainly is so in the human body, but in the horse its effect is not so perceptible. This preparation, like the former, is commonly given as an alterative, in doses of an ounce; it is employed also to improve the horse's condition, and, if assisted by good grooming, will probably have that effect.

3. *Calx of Antimony*, washed and unwashed. The former has been named also diaphoretic antimony; and is now very rarely used on account of its inactivity; the latter has been thought more active, but is not often employed. The dose three or four drams.

4. *Antimonial Powder*. A white powder, prepared from sulphuret of antimony and shavings of hartshorn; said to be nearly the same as the celebrated James's Powder: this has been recommended in colds and fevers, in doses of three or four drams.

5. *Precipitated Sulphur of Antimony*, or *Golden Sulphur of Antimony*. This preparation has been found useful in obstinate diseases of the skin, when joined with a small proportion of calomel. The dose

from one to two drams, with about a scruple of calomel.

6. *Tartarized Antimony*. Emetic tartar. This preparation is more frequently employed in veterinary practice than any other. Though a violent emetic in the human body and most quadrupeds, its effect on the horse is very inconsiderable. It is commonly given, however, in colds and fevers, as a diaphoretic. The dose is about two drams. In dogs it is a good emetic; the dose from two to six grains, according to the age and size of the animal. The effect of emetic tartar on cattle has not, I believe, been accurately ascertained; therefore it should be given cautiously.

7. *Muriate of Antimony*, *Butter of Antimony*. A strong liquid caustic, often employed in veterinary practice; when mixed with water, it is decomposed; therefore should be used alone.

ANTIPHLOGISTICS. Medicines that cure inflammatory complaints: the term is applied also to any general mode of treatment or regimen that is calculated to cure inflammation.

ANTISEPTICS. Medicines which prevent or correct putridity. Peruvian bark, opium, prepared ammonia, yeast, and wine, are said to possess this property; and, as an external application, the fermenting poultice has been strongly recommended. See *Poultice*, *Mortification*, and *Fever*.

ANTISPASMODICS. Medicines which are designed to cure those diseases which depend upon spasmodic or convulsive action of any part of the body, as in locked jaw. Opium, ether, and camphor are considered as the most powerful medicines of this class.

APOPLEXY. According to Gibson, the following are the symptoms of this disease: "In apoplexy, the horse drops down suddenly without sense or motion,

only a working of his flanks ; the previous symptoms are drowsiness, watery eyes, somewhat full and inflamed, a disposition to reel, feebleness, a bad appetite, and almost a continual hanging of the head or resting it in his manger ; sometimes with little or no fever, and scarcely any alteration in the dung or urine." His method of treating it consists in "bleeding *plentifully*, and keeping the horse for some time to an opening diet of scalded bran, and sometimes scalded barley, lessening the quantity of his hay : after two days, the bleeding is to be repeated, but in a smaller measure ; if the horse has a cold, it will be proper to give him pectorals, such as are prescribed for colds ; but if no symptoms of a cold appear, it will be necessary after bleeding and a spare diet, to give him two or three aloetic purges."

Apoplexy seems to depend either upon too much blood being sent to the brain, or upon a rupture of a blood-vessel in that organ ; bleeding, therefore, is the essential remedy : to prevent a return of the fit, purging medicines, with an opening and spare diet, are certainly proper ; but I think the "scalded barley" may well be dispensed with. Setons or rowels should be placed about the head, or the whole of the forehead blistered. The most effectual mode of bleeding in this disease is to open one or both of the temporal arteries ; but where this cannot be done, both of the neck veins should be opened, that a large quantity of blood may be taken off in a short time. It is necessary to distinguish apoplexy from lethargy or sleepy staggers (see *Lethargy*), because that disease requires a different treatment. There are other *fits* to which horses are subject, that may appear to be a slighter degree of apoplexy than that described by Gibson ; but as their treatment is in some respects different from that of apoplexy, they will be described under

the following heads: *Dropsy of the Brain, Epilepsy, Vertigo, Staggers.*

APPETITE. Want or loss of appetite may arise either from fatigue, from what is termed fever in the horse, or from a diseased state of the digestive organs. If it depend on the former cause, give a cordial ball; and if the subject be old, or accustomed to take cordials, give it as a drink, mixed with ale. See *Cordials*.

Loss of appetite, depending on fever, or general indisposition, commonly requires bleeding and laxative medicines; but if it is caused by worms, or a diseased state of the stomach or bowels, a mild mercurial purgative is most proper, unless the disease be of an inflammatory nature.

Horses sometimes fall off in condition, not so much from want of appetite, as from pain and difficulty, either in masticating their food, or swallowing it; the method of distinguishing and treating such cases may be seen under the heads *Mouth, Teeth, Diseases of, and Sore Throat*. Should the horse continue off his appetite after the operation of the purgative, tonic medicines may be given (see *Tonics*). Loss of appetite, accompanied with languor and general debility, often happens at the time of moulting or changing their coats; in such cases both bleeding and purging are improper, but tonic medicines will generally be beneficial.

Appetite, Craving, may justly be considered a disease, and one of importance too; for unless restrained, it often causes incurable cough, roaring, broken wind, and other diseases. Horses that have this excessive appetite will eat even their litter when limited in hay; the only effectual restraint, therefore, is a muzzle, which should be worn constantly, except when he is feeding. The corn should be mixed with

a large proportion of clover chaff, and only a small quantity of hay allowed; his allowance of water also should be very moderate. A purgative is the only medicine likely to be of service.

AQUA FORTIS. Weak nitrous acid.

AROMATICS. Medicines that have a warm pungent taste, and a fragrant smell: of this kind are the spices, aniseeds, caraway seeds, &c. See *Cordials* and *Tonics*.

ARRESTS OR ARRETTES. A term given by farriers to a scurfiness of the back part of the hind leg; it is named also *Rat Tails*.

ARSENIC. A poisonous mineral, sometimes used in veterinary medicine, both internally and externally. Though arsenic has been given to glandered horses in the immense dose of two drams, in many instances without any violent effect; it has sometimes, in much smaller doses, irritated the stomach and bowels in a considerable degree; and in one case, where it was continued by mistake, after that effect had been produced, the horse was destroyed by it: much caution, therefore, is required when arsenic is employed. It is proper to begin with small doses, about ten grains, increasing them gradually, and carefully watching the effect. Whenever it appears to diminish the appetite, or cause uneasiness in the stomach and bowels, no more should be given until such effect shall have ceased. Arsenic should not be given when the stomach is empty; a thin bran mash may first be given to the horse. Arsenic has been considered as a powerful tonic, and has been often employed in glanders and farcy; it has also been given in cases of general debility. (See *Appetite*, *Glanders*, and *Farcy*.) Arsenic is sometimes employed as an external application in several diseases; but in these also it should be used with caution, and generally requires to be diluted or mixed with other

drugs. To dissolve arsenic, it should be boiled in water, with an equal quantity of carbonate of potash; in this state it is said to be less dangerous. See *Mange, Scab, Canker, Quittor, and Spavin-Bone*.

ARTERIES are membraneous pulsating canals, which gradually become less as they proceed from the heart.

ARTERIOTOMY. The opening of an artery. This operation is performed only on the temporal artery, the pulsation of which may be felt in the horse's temple, about two inches from the outer corner of the eye: where it may be easily opened with a lancet. Another method of opening it is to make an incision in the skin first, in order to expose the artery, so that it may be opened with greater certainty. There is more difficulty generally in stopping the bleeding, than in opening the artery; that is, when it is attempted by pinning up the orifice in the skin, as when the neck vein is opened; when this method is adopted, the pin should be rather longer and stronger than those commonly used; the ligature also should be strong and firmly tied. Another method is to make a complete division of the artery, as soon as a sufficient quantity of blood has been obtained; the ends of the artery will then shrink within the cellular membrane, and the bleeding will soon cease.

ARTERIES, Diseases of. See *Aneurism*.

ASAFCETIDA. A gum resin of a strong nauseous smell, said to be useful in chronic cough, joined with squills. It has been recommended also as an anti-spasmodic. The dose about half an ounce.

ASARABACCA. This herb is seldom used in veterinary medicine; infusions of it are recommended by old writers on farriery to be thrown up the nostrils in staggers, and other affections of the head.

ASCARIDES. See *Worms*.

ASCITES. See *Dropsy of the Belly*.

ASTHMA. See *Cough, Roaring, and Broken Wind.*

ASTRINGENTS. Medicines that check morbid evacuations, as in diabetes, diarrhœa, &c.; they are used also externally, as in grease, &c. For internal use, oak bark, extract of catechu, kino, dragons' blood, and alum are often employed; externally, the preparations of zinc and lead, and alum, are generally preferred as astringents. See *Zinc, Lead, and Alum.*

ATROPHY. See *Consumption.*

ATTAINT, *Upper and Nether.* An absurd term given by farriers to wounds caused by overreaching; that is, a wound in the back part of the fore-leg, or in the heel, inflicted by the toe of the hind foot. See *Wounds and Overreaching.*

B.

BACK, *Galled.* Accidents of this kind ought never to occur, because it is almost always a consequence of inattention in those who have the management of the saddle or harness. Before a journey is undertaken, therefore, it is necessary to examine carefully the saddle or harness, and repeat the examination from time to time until the journey is finished. When any swelling or tenderness is observed about the horse's back or shoulder, let it be frequently bathed with the following lotion:

Goulard's Extract, half an ounce.

Vinegar, four ounces.

Water, one pint.—Mix.

If the skin has been so bruised as to cause a sitfast, or hard dark-coloured scab, let it be rubbed twice or three times a day with camphorated mercurial ointment, until it is loosened sufficiently to be taken off: some force is generally required to effect this, and the knife is often found necessary to separate

some parts. When the sitfast is removed, dress the sore twice or three times with a mixture of burnt alum and red precipitate, and afterward with the following ointment:

Saturnine ointment, four ounces.

Finely powdered alum, one ounce.—Mix.

No application can be of service in galled back, if the pressure which originally produced it is continued; in such cases troublesome abscesses may form, and it is often from such cruel negligence that fistula in the withers is produced.

BACK-RAKING. An operation so called by farriers, which consists in introducing the hand into the horse's fundament, to draw off any hard dung that may be in the gut. The operation is sometimes required to ascertain the state of the dung, in order to determine whether laxative medicine is necessary or not. When the bladder is distended with urine, it may be distinctly felt in this way. See *Bladder, Diseases of*.

BACK SINEWS. Tendons on the back part of the fore and hind leg, which are often injured in violent exertion. See *Strains*.

BAGS. See *Mouth, Diseases of*.

BALL. The best form in which medicine can be given to the horse. A little practice will enable a groom to give balls without the assistance of the balling-iron; though there are cases, perhaps, in which this instrument is necessary. Balls, unless composed of very heavy ingredients, such as antimony, should not exceed one ounce and a half in weight, and their form should be more oblong than that of an egg. Syrup is usually directed for forming powders into balls, but molasses will do just as well. Powders that do not cohere readily require strong mucilage for this purpose; and resinous powders require balsams, turpentine, or soap.

When many balls are made at one time, great care should be taken in mixing the powders before the mass is formed, that each ball may contain an equal proportion of the several ingredients.—The prescriptions for cordial, alterative, purgative, and other balls, will be found under their respective heads.

BALM OF BALSAM. There are several kinds of balsam employed in veterinary medicine, viz. Balsam of Tolu, of Peru, of Capivy, &c. Many preparations also have been named Balsams; thus we have Friar's Balsam, Balsam of Sulphur, &c.

BALSAM OF THE CANADIAN FIR, OR CANADA BALSAM. A pure kind of turpentine, possessing the same medicinal qualities. See *Turpentine*.

BALSAM COPAIBA OR CAPIVY. A strong diuretic. It has been recommended also in flatulent colic and chronic cough. The dose about one ounce.

BALSAM OF BALM OF GILEAD. This is the purest and most expensive of the turpentines, not differing essentially, however, in its medical properties, from Canada Balsam.

BALSAM OF LOCATELLUS. A preparation made of oil, turpentine, wax, and red sanders, now rarely used, except by old farriers. It was formerly given in old coughs.

BALSAM OF PERU. A dark-coloured fluid, of a fragrant smell and strong acrid taste. It has been recommended in chronic cough, and in the early stages of broken wind. The dose about two or three drams, generally mixed with squills, ammoniacum, or other expectorants.

BALSAM OF SULPHUR. A preparation made by boiling sulphur and olive oil together until united in the form of a dark-coloured tenacious mass. This has been much esteemed by old farriers in obstinate coughs, but is now seldom employed. When mixed with a small proportion of oil of aniseed, it has been thought

more efficacious, and is then named Anisated Balsam of Sulphur.

BALSAM OF TOLU. A solid resinous substance, of a yellowish colour, and fragrant smell. It is sometimes used as an expectorant in chronic cough. The dose two or three drams.

BALSAM, TRAUMATIC, or FRIAR'S BALSAM. A popular remedy for wounds and ulcers, made by dissolving gum benzoin, balsam of Tolu, and aloes, in rectified spirit of wine. The modern name for this preparation is Compound Tincture of Benzoin.

BANDAGE. Strips of linen or flannel about three or four inches wide. They are generally employed for habitual swelling of the legs, and sometimes as a palliative in windgalls, and weakness of the fetlock joints. The length of the bandage must be determined by the part to which it is to be applied; for the legs it ought not to be less than two yards. The efficacy of bandages depends much upon their being properly applied; the first turn of the bandage should be downward, and immediately under the fetlock joint; from thence, passing obliquely upward over the front of the joint, it is brought down again in the form of a figure of eight, and then continued up the leg. A bandage should be moderately tight, so as to support the joint, without impeding the circulation, and causing swelling above the bandage; it should be so applied also, as to press equally on every part. Adhesive plasters are sometimes employed as bandages. See *Charges*.

BAR. To bar a vein, that is, to destroy the diseased part of a vein, an operation so named by farriers, which consists in making an incision in the skin of sufficient length to admit of two waxed threads being passed under the vein, one above, the other below the diseased part; these being firmly tied so as to prevent the passage of blood, the vein between the

ligatures is completely divided. The wound is dressed at first with mild escharotics, such as red precipitate; afterwards it is treated as a common sore.

BARBS OR PAPS. On drawing out the horse's tongue on one side, two very small pap-like substances may be seen in the under jaw, one on each side the groove or channel in that part; these little eminences are the terminations of the salivary ducts, which convey the saliva from the glands which form that fluid into the mouth. In books of farriery they are said to be sometimes inflamed, and so enlarged as to hinder feeding, and the disease is named the Barbs. The remedy proposed is cutting them off with a pair of scissors, and afterwards applying salt, or touching the parts with lunar caustic. Mr. Blaine reprobates the practice of cutting them off, and thinks it may be productive of serious consequences, by causing obstruction in the salivary ducts. I have often seen these parts inflamed and tender, as well as the whole of the membrane of the under part of the tongue and jaw, but never found such an operation necessary. Young horses, when cutting their teeth, have generally these parts inflamed more or less, and sometimes in so considerable a degree as to render feeding very painful. In such cases I have found that by bleeding, bran mashes, and syringing the parts with a solution of alum, the inflammation has soon subsided. We sometimes meet with swellings on the inside of the cheeks, commonly named Bags or Gigs, which may be cured by excision. See *Mouth, Diseases of*.

BARK, PERUVIAN, OR CINCHONA. There are three kinds of cinchona kept in the shops—the pale, the yellow, and the red; the yellow is considered the most active. Bark is given to horses and cattle in cases of general weakness; the common dose is one ounce, but it may be given with safety in considerably larger doses.

BARLEY, macerated in boiling water, is nutritious and easy of digestion, and therefore sometimes given in sickness: as a common diet, barley may be found useful; but when given largely, before the stomach has been gradually accustomed to such food, it has been found difficult of digestion, and productive of colic or pain in the stomach.

BARs. See *Foot*.

BASILICUM. A well-known ointment, composed of yellow wax, yellow resin, and olive oil, equal parts of each; it is now named Ointment of Yellow Resin.

BATHING. Both cold and warm bathing have been tried without effect in locked jaw. Cold bathing, or making a horse swim in a river or in salt-water, has been recommended as a remedy in shoulder strain, but I have never known it do any good. It may be worth while however to give it a trial in lamenesses that have resisted other remedies, and are supposed to depend on some injury of the shoulder; I have heard that in one instance it was employed with success by Mr. Morecroft, in a case of locked jaw.

BAYBERRIES are sometimes used in horse medicine as an aromatic stimulant. The dose from one ounce to two ounces. They are an ingredient in the celebrated stomachic powder of farriers, named Diapenté.

BEANS. A useful article of diet for horses that work hard, but unfit for young horses, or such as use but moderate exercise. See *Diet*.

BEDDING. See *Stable*.

BEER. See *Ale*.

BELLADONNA, or *Deadly Night-shade*. A powerful narcotic, rarely used in veterinary practice, except in certain diseases of the eye, the pupil of which it has the extraordinary power of dilating in a considerable degree, when a small quantity is placed between or rather under the lids. See *Eye*.

BENZOIN, or GUM BENJAMIN. A brittle resinous

substance of a fragrant smell, resembling balsam of Tolu, and possessing nearly the same medical qualities. See *Balsam*.

BENZOIN, *Flowers of*, or *Flowers of BENJAMIN*. These are prepared from the former by sublimation; and are sometimes used as an expectorant. Dose from one to two drams.

BILE, or **GALL**. A saponaceous dark-coloured fluid of an intensely bitter taste: it is secreted or formed by the liver, from which it is conveyed by the biliary duct to the intestines. The bile serves as a constant stimulus to the intestines, thereby promoting in them that kind of motion termed peristaltic, by which the useless parts of the food are propelled through them and evacuated. See *Liver*, *Digestion*, *Nutrition*.

BILIOUS. Diseases are so named when they are supposed to depend upon a deficient or redundant secretion of bile, or on its being of a bad quality. See *Yellows*, *Jaundice*, *Diarrhœa*, and *Liver*, *Diseases of*.

BINDERS. See *Foot*.

BIRTHWORT. The root is a weak stimulant, and seldom employed.

BISHOPPING. When artificial marks are made in the horse's teeth, to make him appear younger than he really is, he is said to be bishopped, and the operation is termed *bishopping*; it consists in making a small orifice with a graver in each of the corner teeth, resembling in situation and form as nearly as possible the natural marks, which are found in these teeth when a horse is six, or between six and seven years old; they are then touched with a small hot iron to imitate the brown colour of the natural mark. However dexterously this operation may be performed, it is easily discovered by a person accustomed to ex-

amine the teeth of horses: and such as have not had this advantage, may observe a want of correspondence in the state of the tushes, or the marks of the upper teeth; and if the horse's age is considerable, it may be known by his general appearance, by gray hairs over the eyes and about the forehead, by the teeth being much longer than in young horses, and approaching more to the horizontal position. In black horses, I have known the gray hairs concealed by means of black powder, which was discovered by passing the hand over the eyes. See *Age*.

BISTORT, or SNAKEWEED. The root is a powerful astringent. The dose about an ounce.

BITE of a mad Dog. As no certain means are known, by which the fatal consequences of such a bite can be prevented, any brute animal that happens to be so bitten should be immediately destroyed. See *Hydrophobia*.

Bites, Venomous. The bite of a viper is sometimes attended, not only with considerable swelling about the wounded part, but with symptoms of fever or general indisposition also. A great variety of remedies have been prescribed by writers on farriery, beginning with old Mascah, whose book is dated 1633. He advises, after bleeding in the roof of the mouth, to "take a young cock, (some take but a pigeon,) and cleaving it in the midst, clap it hot to the wound." The renowned Gervase Markham advises the same; and adds, some farriers apply hogs' dung to the part. As soon as the accident is perceived, a moderate quantity of blood is to be drawn from the neck vein; about one ounce of nitre given morning and evening; and the swollen parts almost constantly fomented with a decoction of bitter herbs. Should the swelling continue, let the part be well rubbed with the following liniment:

Soap liniment, two ounces.

Olive oil, one ounce and a half.

Liquid ammonia, half an ounce.—Mix.

Solleysel informs us, that "there are certain venomous creatures resembling mice, which breed in rotten straw, the bitings of which are fatal to horses and dogs, and when cats eat them they die in a kind of consumption." These *formidable mice* are termed Shrew or Shrove Mice by old farriers. Mr. John Lawrence affirms he has "often seen them; that they have a snout like a hog, that their bite is venomous, and though a cat will kill, he never eats them."

BINDING of the Hoof. See *Hoof, contracted*.

BITTER APPLE. A violent purgative in the human body, but useless as a horse medicine.

BLACK LEG, or QUARTER EVIL. A disease incident to young cattle, from one to two years of age. Many names have been given to this disease, just as unmeaning as that we have chosen from them; the symptoms also have been variously described. All writers seem to attribute it to putting young animals into rich pasture too hastily, whereby a redundancy of blood is generated, and the system too powerfully excited. The first symptoms are an appearance of heaviness and disinclination for food. On examining the animal, a swelling may be observed in some part of the body, generally beginning in the legs and proceeding upward. On feeling the swelling, a crackling may be perceived under the skin; the swelling sometimes extends to the loins or belly. In some cases the joints are particularly affected, causing severe lameness. Bleeding is generally allowed to be the essential remedy: and, though the disease most commonly proves fatal, it appears probable, that bleeding largely on the first appearance of the symptoms will often prove effectual. Clater recommends the following drink, as a purgative:

“ Take Glauber’s salts from eight to twelve ounces,
according to the animal’s strength.

White antimonial powder, one dram.

Camphor, one dram.

Aniseed and ginger, of each one ounce.

Treacle, four table spoonsfull.—Mix for one
drink.”

It is needless, perhaps, to point out the inconsistency of giving a large dose of ginger for a complaint so highly inflammatory, in which light the author certainly considers it; for he adds, “ this will be found a powerful drink in removing those inflammatory symptoms, which attend diseases of this kind.” He recommends, “ if the beast is not purged in the space of twelve or twenty hours, to give half the dose every night and morning until the desired effect is obtained.”

The same author directs, after the animal has been purged, a curious farrago composed of alum, nitre, bark, aniseeds, carawayseeds, treacle, and vinegar; if the fever still increase, this wonderful drink is to be omitted, and a powder given every morning and evening, consisting of

Tincture of opium,	} of each two drams.
Camphor, and	
Antimonial powder,	
Nitre, one ounce.	

We are then directed to rub the swollen parts with the following mixture :

Nitre, four ounces.

Vinegar, one quart.

Oil of vitriol, one ounce.

Tincture of opium, two ounces.

Camphorated spirit of wine, four ounces.—

Mix.

We are then told, if the tumefied parts are gradually proceeding to a state of suppuration, a mixture, which he calls *emollient oils*, is to be used, containing

several highly stimulating ingredients : such as oil of turpentine, water of ammonia (spirit of sal ammoniac), opodeldoc, and tincture of opium. To finish this elaborate medical discipline, we have a prescription for the soreness of the mouth which accompanies this disease, composed only of four ingredients, viz. burnt alum, bole, salt, and vinegar. Mr. Clater then points out the preventive measures to be adopted. "As soon as the disease makes its appearance upon one of the herd, let them all be brought into the fold yard, and lose from two to three quarts of blood, according to their size and strength. Let them be kept there till next morning, and then take one of the following drinks." The author does not inform us which of these drinks is to be preferred, and some readers may perhaps feel puzzled in making a choice, as each contains one very palatable ingredient ; in the first, one ounce of brown sugar-candy is directed, and in the other, a glass of common gin ! Many farriers would doubtless prefer the latter. Mr. Skerrett gives rather a different description of the disease. "The disease begins on a joint of the leg or thigh, and sometimes in the foot ; it is first discovered by a lameness of the animal, and the part when examined discovers a crackling and swelling, showing that air has made its way through the skin and flesh. Its progress is to rise upward, and to spread over that quarter which is first seized ; when it rises to the back and kidneys, it then proves quickly fatal." "Bleeding," he adds, "is the principal remedy to be depended on, and should be carried to the same extent as in active inflammation ; the state of the parts is not to be omitted, and scarifications so as to unload the vessels, will be of great service ; after this, the parts should be dressed with equal parts of common salt and nitre, finely powdered, by which means suppura-

tion will be induced, and a check put to the disorder." He advises at this period fomentations ; and observes, that clearing the bowels must not be omitted. His preventive remedy consists in giving the following powder two or three times in the year, to young cattle placed in rich pastures, and bleeding each time :

Flowers of sulphur, four to six ounces.

Nitre, one ounce.

Grains of Paradise, two drams.

Mr. John Lawrence, in his *Treatise on Cattle*, observes, in speaking of this disorder, "prevention of this malady is the only cure worth notice ; because after the attack, the very nature of the disease renders all remedy either uncertain or of very little profit, even if successful, on account of the expense of time and money. With this view, the young cattle should not be pushed so forward in condition ; and indeed the same precaution may be useful in some degree with respect to the full aged. A piece of short or inferior keep should be reserved as a digesting place, in which the cattle may be occasionally turned to empty and exercise themselves." Mr. Lawrence advises also an alterative powder, composed of sulphur and antimony, being given daily for a month, and two rowels or setons in each breast. We think Mr. Lawrence's advice upon this subject very reasonable, but consider the medical part of it unnecessary. In the fifth volume of the *Farmer's Magazine* another plan is communicated by a practical farmer, suggested to him by a *skilful blacksmith*, which he asserts has often succeeded ; but as the paper is anonymous, and the plan apparently absurd, we do not feel inclined to credit his assertion. "The first thing he did was to take a little blood from the neck ; he then *pulled the skin from the flesh* on the side

that was most pained, still keeping the beast walking as much as possible; he then caused cold water to be poured in large quantities on the part affected, still rubbing and keeping the skin loose on the affected part; he then made three cuts with a *pen-knife*, each two inches long, into which he rubbed salt and water; in this manner he continued four hours; at one time driving him, then pouring on water, loosening the skin from the flesh, and rubbing in salt; by this time he was not near so *cripple*, and began to take his food; we were ordered however to keep him in motion all night, and in the morning he was well for his food, and never had a return of the complaint." The practical farmer says, he followed the blacksmith's practice with *success*, only, instead of pouring water on the part, he put a rope about the beast's head, and made him swim in a deep pool; he then drove him about, and gave from half an ounce to an ounce of laudanum; but never opened the skin. He observes, that he never knew an animal recover from this disease when left wholly to nature, and that it is more difficult to cure in the hind than in the fore-quarters. The fatality of this disease renders it a subject of great importance to breeders of cattle, as well as to farmers in general; this consideration has induced us to treat of it at some length: it may not be amiss however, before we conclude the subject, to describe another method of preventing this disorder, which, however absurd it may appear, is said to be generally practised in Cheshire and Staffordshire with success. "The animal having been properly secured, an incision is made in each foot, beginning at the division of the claws, and extending from two to three inches upward; a blueish vessel (vein) is then seen, which is to be drawn out by passing a crooked needle under it, and cut off with scissors. The wound is first dressed with escharotic powder, afterward with digestive

ointment." In what manner this curious operation can prevent the disease in question, it is not easy to imagine; if they who confide in its efficacy take care not to feed their young cattle too hastily, or, as Mr. Lawrence expresses it, "not push them too forward in condition," the mystery will cease. Such a variety of names have been conferred on this disorder, that it appears necessary to give a list of them, which is taken from Mr. John Lawrence's *Treatise on Cattle*: *Shewt of Blood—Vomit of Blood—Blood in the Back—Blood in the Legs, or Crateuch—Blane in the Tongue, or Overflow of Blood—Striking in, or Rising of the Blood—Higham, or Iron Striking—Joint Murrain, or Garget—Black Quarter—Quarter-Evil—Black Leg.*

BLADDER, *Urinary.* The receptacle or reservoir for the urine. See *Urinary Organs.*

BLADDER, *Inflammation of the.* This disease does not often occur to horses or cattle; and, when it does, most commonly depends either on inflammation having spread to it from the bowels or other internal parts, or from the too free use of strong diuretics, which causes a defective secretion of mucous substance, by which the internal surface of the bladder is defended from the acrimony of the urine. The bladder being thus unprotected, and at the same time extremely irritable, every drop of urine that passes into it is immediately expelled with a violent and painful effort, and the animal is almost constantly endeavouring to stale, voiding only a few drops at a time. This appearance has sometimes led to the conclusion, that there is a stoppage in the neck of the bladder or in the urinary passage, and the bladder is full of urine; it will be found, however, on passing the hand up the fundament, that the bladder is quite empty. There is no difficulty in ascertaining this point; for when it is full, it may be very distinctly felt through the gut, and forms a considerable ob-

stale to the passage of the hand. The frequent staling therefore is caused by extreme irritability of the bladder, in consequence of its inflamed state. The above symptoms I have observed to take place also in inflammation of the kidneys; but here, in addition to the frequent and painful staling, there was a remarkable stiffness of the hind legs, when both kidneys were inflamed; but when the inflammation was confined to one, or much more in one than in the other, the stiffness was most observable on that side. (See *Kidneys*.) Bleeding is the first remedy to be employed; and, if the pulse is very quick, the inner surface of the eye-lid red, and the breathing disturbed, not less than five or six quarts should be taken, provided the animal does not faint before this quantity is lost. Unless the bowels are in an open state, a pint of castor oil should be given, and any hard excrement there may be in the lower gut removed by means of glysters. Should there be any suspicion of the kidneys being at the same time affected, it will be proper to rub the loins well with the following mixture:

Flour of mustard, two ounces.

Water enough to make it of the consistence of cream.

After this, let a fresh sheep's skin be thrown over the loins, the flesh side next the skin. If the symptoms do not abate, the anodyne glyster is to be thrown up, and the following ball given once in six hours:

Camphor, one dram and a half.

Opium, half a dram.

Linseed meal and treacle enough to form a ball.

The horse should be allowed or made to drink freely of linseed infusion, or a solution of gum. When relief is not obtained, the pulse continuing quick, and the membrane of the eye red, and particularly if the blood first drawn is found to

have buff on its surface, the operation must be repeated; though it is probable that the disease will then have become highly dangerous; still it is the only chance that remains of saving the animal's life. Horses are often affected with irritability of the bladder, which causes them to stale much oftener than usual, but not with any pain, or in that very small quantity we have above described; and besides they feed well and are free from fever. I am inclined to believe, that this state of the bladder is sometimes induced by the pernicious practice of giving strong diuretics upon every trivial occasion. The best remedy for this is the infusion of linseed; or, if this does not remove it, give the following ball:

Camphor, one dram and a half.

Opium, half a dram.

Nitre, six drams.

Flour and syrup enough to form a ball.

BLADDER: *Inflammation of its Neck.* Mr. Blaine has informed us that "sometimes the neck of the bladder takes on inflammation alone, and that it is said to occur more frequently to horses than mares. It is to be distinguished from inflammation of the kidneys, because in passing the hand up the rectum, the bladder will be found distended: this will also distinguish it from inflammation of the body of the bladder. The making a little water frequently will not distinguish this from the two foregoing complaints; for in inflammation of the neck of the bladder, there is frequently a small quantity of urine coming away at different times; for after the bladder becomes distended, there are, by the force of the distention, a few drops forced out now and then. But in this complaint, the staling will not take place till the bladder is distended fully; whereas in the former complaints, it will come on at the very first." Mr. Blaine recommends bleeding, laxative medicines, and stimulating the parts exter-

nally. "If the inflammation does not subside, so as to permit the urine to pass, it must be drawn off by artificial means, or the bladder may burst, or the irritation will kill, or gangrene will come on. In a mare, from the urethra being large, a catheter may be easily passed up, and the water drawn off; but in the horse, to effect this, an opening must be made from the perinæum: but neither of these should be used till the effort of passing the hand up the rectum and pressing on the bladder has been tried, which will often promote the expulsion." In cases of distended bladder from retention of urine, there would be danger I conceive in pressing on the bladder, as Mr. Blaine describes; in a mare there would be neither danger nor difficulty in drawing off the urine by means of a catheter; and in a horse, after bleeding and other remedies had failed, an incision may be made with safety in the perinæum, and a catheter passed thence into the bladder, without the painful and dangerous expedient of pressing on it. See *Urine Retention and Suppression of*.

BLAINE. A term used in some old books on cattle medicine to signify a distemper consisting of "a watery tumour growing at the root of the tongue, which threatens suffocation: it is first perceived by the beast's gaping and holding out his tongue, and foaming at the mouth. To cure it, cast the animal, draw forth the tongue, and open the tumour with a knife; then wash it with vinegar and salt, and leave the rest to nature." I have never seen a disease which corresponds with this description either in horses or cattle.

BLAST. A term sometimes vulgarly used to express inflammation of the eyes.

BLEEDING, BLOOD-LETTING, or VENESECTIION. The most important operation in farriery, not however on account of its difficulty or any particular skill which it requires, but because it is by far the

most efficacious remedy in many dangerous diseases to which horses and cattle are liable. It may be performed either with a lancet or a fleam; in skilful hands, and particularly when horses are shy and afraid of the bloodstick, the former instrument is certainly the best; but in general the fleam perhaps is preferable, as it requires but little dexterity, and by keeping instruments of two or three different sizes, we may command either a large or a small orifice.

Some farriers tie a cord round the neck, in order to raise the vein, that they may strike it with more certainty. This, though a clumsy method, and rarely necessary, does not appear to me so highly dangerous, as Mr. Clark has described it. Whenever it is found necessary however, as in mad-staggers, the cord should not be applied, until the vein has been opened. The vessel for receiving the blood should be so marked on the inside, that the quantity of blood in it may be readily seen. The jugular or neck vein is more easily opened than any other, and on this account is generally chosen. Many farriers, however, prefer other veins in particular cases: in injuries of the shoulder, for example, they open the plate vein; and when the kidneys are supposed to be affected, the large vein on the inside of the thigh is considered the best. But there does not appear to be any just ground for this preference; and it is generally admitted, I believe, by veterinarians of the present day, that in all cases, where general bleeding is required, the neck vein is the most convenient, as any quantity of blood may be drawn from it with greater certainty, and much less difficulty, than from any other. The diseases in which bleeding is useful will be described elsewhere. (See *Inflammation, Fever, &c.*) It is sometimes employed also as a preventive; as in horses that are taken from grass into the stable, or from a state of poverty in to good keep: in

such cases however, it may generally be dispensed with, if the change of situation and diet be brought about gradually, and the horse properly exercised. (See *Condition, Feeding, and Exercise*.) It sometimes happens, however, that this precaution is not attended to; and then, if the horse should appear dull and indifferent about his food, and particularly if the membrane of the eyelid should appear red, he ought to be bled freely; and if in any degree costive, a dose of laxative medicine should be given. The practice of bleeding horses indiscriminately at certain periods is improper: but if they have been accustomed to such periodical evacuations, they often suffer from its omission.—It may not be superfluous to notice one case, which came under my immediate observation, in which bleeding proved fatal. A horse was brought to be bled, merely because he had been used to it at that season of the year: I did not examine him minutely; and as the groom stated that there was nothing amiss with him, I directed a moderate quantity of blood to be drawn—about five pints were taken off; and while the operator was pinning up the orifice, the horse fell. He appeared to suffer much pain, and had considerable difficulty in breathing. In this state he remained about twelve hours, and then died. On examining the body, a red coloured fluid was found both in the abdomen and thorax, but not in any considerable quantity; the lungs were in many parts of a dark red colour throughout; and in the pericardium, or heart-bag, there was rather more than a quart of red coloured fluid; from these appearances it is probable, that the loss of a moderate quantity of blood caused a fatal interruption to the functions of the heart.

When a horse has been bruised considerably by a fall, kick, or otherwise, it is proper to bleed rather freely, and keep him on a cooling diet. I am inclined

to believe also, that if a horse has been over-ridden, as sometimes happens in a severe chase—copious bleeding, if immediately employed, is the most likely means of relieving him. I have been led to this opinion from having examined two horses that died from this cause. One of them, an impetuous irritable horse, died about two hours after he came into the stable; the other survived about thirty hours. In both the lungs and right side of the heart were turgid with blood; in the latter the kidneys were highly inflamed, as well as the lungs and right side of the heart; but the bladder was sound and empty. The most conspicuous symptom however in this case, was a painful and almost constant effort to stale, without being able to void more than a few drops. The first had a small quantity of blood drawn, and was drenched with cordials; the latter also was bled, and pretty freely; but not till inflammation had made considerable progress.

BLEEDING in the Toe is sometimes performed for inflammation and swelling of the hind legs. Having taken off the shoe, and pared away the hard or exterior parts of the sole or bottom of the foot, a transverse incision, about an inch and half in length, is to be made with a drawing knife in the sole near the toe, of sufficient depth to open some of the blood vessels, which are very numerous about that part. For bleeding in the temporal artery, see *Arteriotomy*.

BLEEDING, Injuries from. See *Veins, Diseases of*.

BLEEDING in the Roof of the Mouth is considered by many farriers as a useful remedy in certain disorders: there is no circumstance however, which can render this operation necessary.

BLEIME. See *Corn*.

BLENNORRHOEA, or Mattering of the Yard. A mucous discharge from a stallion's yard, generally caused by covering too frequently. This disease generally soon ceases, when the animal is kept from

mares, but may be more quickly stopped by washing the parts frequently with the following lotion, cold:

Acetate of lead, two drams.

Sulphate of zinc, two drams.

Water, one quart.

In obstinate cases it may be injected into the urethra, in which case it should be diluted with an equal quantity of water. The same remedy is applicable to mares that have a mucous discharge from the vagina. In all cases where there appears to be inflammation, a moderate dose of physic should be given.

BLENDWATER, *called also MOREHOUGH*. A disease incident to black cattle, in which the liver is affected, according to old writers on farriery, who recommend as a remedy, bole armoniac, charcoal powder, and the inner bark of the oak boiled in new milk.

BLINDNESS. See *Eyes, Diseases of the*.

BLISTER. An application which inflames the skin and raises the cuticle into small bladders, which contain a watery fluid: various substances are employed for this purpose, the principal of which is the cantharis or Spanish fly, (*lytta vesicatoria*); euphorbium, hellebore, corrosive sublimate, oil of origanum, oil of turpentine, &c., are also occasionally employed. There are three different forms in which blisters may be used, that is, as an ointment, a liniment, and a tincture; the last is commonly named Liquid Blister. The ointment is generally preferred, but the liquid blister is considered by some practitioners the best application for curbs, spavins, and splents. The part to be blistered should have the hair cut off as completely as possible, and after the application has been well rubbed in, the horse must be prevented from biting or rubbing the part, which he is generally apt to do, even for several days, which sometimes causes a serious blemish.

Blistering Ointment, No. 1. or Mild:

Hog's lard, four ounces.

Yellow wax, one ounce.

Melt over a slow fire, and then add oil of turpentine or origanum, one ounce. Powdered cantharides, six drams.

No. 2. or Strong:

Oil of turpentine, two ounces.

Sulphuric acid, by weight, six drams.

Hog's lard, twelve ounces.

Powdered cantharides, two ounces.

The first two ingredients are to be carefully mixed in a glazed earthen or stone pot, large enough to contain all the ingredients; for if the sulphuric acid is pure, or of sufficient strength, a violent effervescence or boiling will take place soon after they are mixed, and dense suffocating fumes will be produced; the mixture therefore, should be made either under a chimney or in the open air. When the effervescence has ceased, the hog's lard, having been previously melted, is to be added, and then the powdered cantharides. The last however should not be put in until the mixture shall have become rather cool. The whole is to be well stirred together.

Blistering Liniment:—

Olive oil, two ounces.

Oil of turpentine, half an ounce.

Water of pure ammonia, two drams.

Powdered cantharides, two drams.

Liquid Blister:—

Powdered cantharides, one ounce.

Spirit of wine, eight ounces.

Water of pure ammonia, two ounces.

Let them be kept together about a week, frequently shaking the bottle; then pour off the clear fluid, or filter through blotting paper. This preparation may

be made much stronger by dissolving in it from half a dram to a dram of corrosive sublimate. When the mildest kind of blister is wanted, a mixture of cantharides and hog's lard, or olive oil, will be found to answer the purpose.

BLOOD. Soon after blood has been drawn, it coagulates or becomes rather solid, and has the appearance of a dark red coloured jelly, with more or less of a watery fluid, termed *Serum*. This red coloured jelly consists of two distinct parts; the coagulable lymph, and the red globules or colouring matter. When blood coagulates immediately after it is drawn, the red globules and the coagulable lymph remain mixed together, appearing as one substance; but if the blood continues fluid, the red globules being heavier than the lymph, will be gradually subsiding, leaving the latter on the surface; hence it is that in inflammatory diseases, in which the blood is always longer in coagulating than in health, we find more or less of buff or size on its surface, which is nothing more than the coagulable lymph free from red globules; and it will be found that the quantity of this size will be pretty nearly in proportion to the length of time the blood has remained in a state of fluidity.

BLOOD SPAVIN. See *Spavin*.

BLOODY FLUX. See *Dysentery*.

BLOODY URINE. This disease more frequently happens to cattle than horses, and to the female than the male. It generally arises in horses from bruises or over exertion; sometimes however it comes on without any known cause. In recent cases, where it can be traced to a strain or bruise, bleed freely, give the oily laxative, and rub the loins with some stimulating mixture; but when it comes on gradually or without any apparent cause, and particularly if there be no symptoms of inflammation, and the animal appears rather weak than otherwise, give the follow-

ing powder morning and evening for two or three days :

Catechu, half an ounce.

Alum, one ounce.

Cascarilla, two drams.

This may be made into a ball, should that form be preferred, by means of flour and treacle. For the treatment of bloody urine in cattle, see *Red Water*.

BLOW. See *Bruise*. Blows in the eye are by no means an unfrequent occurrence in horses and cattle, sometimes causing a very severe degree of inflammation. Farriers often apply stimulating powders on such occasions, which serve only to aggravate the mischief, and sometimes do an irreparable injury. In slight cases it will be sufficient to bathe the eye frequently with a weak solution of acetate of lead, or Goulard's extract, about two or three drams to a pint of water; this should be used rather warm: a decoction of poppy heads has been found useful also. When the injury is more severe, bleeding and a dose of some laxative should likewise be employed.

BLOWN, or HOVEN, or FOG SICKNESS. When cattle are put from poor keep into a luxuriant pasture, they are apt to take more food into the stomach than it can readily digest; in consequence of this, a quantity of air is generated, by which that important organ is so distended, as to cause the most distressing symptoms; and unless relief is seasonably afforded, it terminates in a rupture of the stomach and death. Ginger, with peppermint water, or other cordials, is often an effectual remedy at an early period of the complaint; but when the distention of the stomach has proceeded so far as to threaten suffocation, or a rupture of its coats, it will be necessary to force down the throat an instrument of sufficient length to reach the first stomach or paunch, by which means the confined air is suffered to escape. Two

kinds of instruments have been contrived for this purpose, the one by Dr. Monro, the other by Mr. Eager. The former consists of an iron wire formed into a flexible tube and covered with soft leather, rather more than six feet in length. Mr. Eager's is merely a cane of the same length, with a round knob of wood firmly attached to one of its ends. As some dexterity is required to introduce these instruments into the paunch, and the symptoms are sometimes too urgent to admit of the least delay, another operation has been proposed, and, though apparently hazardous, has been often practised with success. This operation is termed *paunching*, and consists in plunging a trocar or a sharp pointed pen-knife through the flank into the paunch, which may be readily distinguished on the left side, between the last rib and the haunch-bone: the confined air will immediately rush through the orifice, and the animal will soon be relieved. It may be necessary to introduce a tube to prevent the food which may ooze out from plugging up the orifice; when all the air has escaped, the wound is to be closed with sticking-plaster (see *Plaster*). See *Indigestion*. An improvement on Dr. Monro's instrument, for which a patent has been obtained, is now sold by saddlers in general, price 1*l.* 1*s.* In cases of emergency, when no other instrument can be procured, a common waggoner's whip may be employed. Some soft leather is to be securely tied to the large end, which, after being smeared with lard or oil, is to be forced down the gullet, until it enters the paunch; this may be known by the air rushing out. According to Dr. Monro, the distance from the mouth to the paunch is about six feet; the instrument, therefore, should rather exceed that length. After an animal has been relieved from this complaint, he should be fed rather sparingly

for two or three days ; and if he has suffered considerably, some cordial medicine may be given.

BLUE-STONE. See *Copper*.

BODY - FOUNDER. See *Dysentery and Molten Grease*.

BOG-SPAVIN. See *Spavin*.

BOLE. A red-coloured earth, composed principally of clay and red oxide of iron.

BONES. See *Ring-bone, Splent, Spavin, Exostosis*, as under these heads their principal diseases will be described.

BORAX. A chrystallized saline substance, brought from India. It is seldom if ever employed in veterinary medicine.

BORING. A cruel and useless operation, formerly practised by farriers, for what they supposed to be a strain of the shoulder : having cut a hole in the skin of the shoulder, they forced under it the stem of a tobacco pipe, and blew up the cellular membrane as a butcher does that of veal : a red hot iron was then thrust in for several inches.

BOTT. A short reddish coloured worm often found attached to the horse's stomach. Mr. Bracey Clark has written an excellent paper on this subject, in the Transactions of the Linnean Society, from which the following is extracted. We must premise, however, that botts are not, properly speaking, worms, but the larvæ of the gad-fly, which deposits its eggs on a horse's coat in such a manner, as that they shall be received into his stomach, and become botts. " When the female fly has been impregnated, and the eggs are sufficiently matured, she seeks among the horses a subject for her purpose, and approaching it on the wing, she holds her body nearly upright in the air ; and her tail, which is lengthened for the purpose, carried inwards and upwards. In

this way she approaches the part where she designs to deposit the egg, and suspending herself for a few seconds before it, suddenly darts upon it, and leaves the egg adhering to the hair, by means of a glutinous liquor secreted with it: she then leaves the horse at a small distance, and prepares the second egg, and poising herself before the part, deposits it in the same way; the liquor dries, and the egg becomes firmly glued to the hair. This is repeated by various flies, till four or five hundred eggs are sometimes deposited on one horse. The inside of the knee is the part generally preferred by these flies for depositing their eggs, and next to that, the side and back part of the shoulder; and it is curious that these parts are most exposed to be licked by the animal: in licking, the eggs adhere to the tongue, and are carried into the horse's stomach with the saliva. The botts attach themselves to every part of the horse's stomach, but are usually more numerous about its farther orifice; and are sometimes, though less frequently, found in the bowels. Their number varies considerably; sometimes there are not above half a dozen; at others they exceed a hundred. They most usually hang in clusters, fixed by the small end to the inner coat of the stomach, to which they attach themselves by means of two hooks. The slowness of their growth and the purity of their food, which is probably the chyle, must occasion what they receive in a given time, to be proportionably small; from which, perhaps, arises the extreme difficulty of destroying them by any medicine or poison thrown into the stomach. After opium had been administered to a horse labouring under locked jaw for a week, in doses of one ounce every day, botts were found in the stomach perfectly alive. Tobacco has been employed in much larger quantities in the same complaint, and has also been continued with-

out destroying them." While making experiments on glanders, I have found living botts in the stomach of a horse, though he had been taking for many days arsenic and corrosive sublimate. Another species of gad-fly, viz. the *hæmorrhoidalis*, also produces eggs, which, when received into the stomach, become botts of a red colour and smaller. The presence of botts in the horse's stomach is not easily ascertained, as it is certain that great numbers have often been found in the stomach after death, without appearing to have produced any kind of inconvenience to the animal while alive. Several cases, however, have come under my notice, where they evidently caused the horse's death. In one case symptoms of staggers were produced; in several others, inflammation of the lungs and other contents of the thorax. Mr. Clark, of Edinburgh, has recorded one case, where "the coats of the stomach were highly inflamed, and a mortification had taken place on one side where it appeared of a darker colour; and here there was a small hole, through which a lead probe was passed from the outside into the cavity of the stomach." I have met with similar cases. It does not appear that any effectual remedy has been yet discovered for botts: Mr. Blaine says, that he has kept them alive for some days in olive oil and in oil of turpentine, and that even the nitrous and sulphuric acids do not immediately destroy them. When botts are supposed to be irritating the stomach or intestines, it will be proper to give a dose of physic, as it may be the means of expelling such as are detached.

BOWELS. The bowels of horses and cattle are very liable to disease, the most serious of which is inflammation; this more frequently occurs in horses than in other quadrupeds, and from the rapid progress it generally makes, the most prompt and effica-

cious treatment is highly necessary. The most conspicuous symptom of this disease, is the excessive pain the animal seems to labour under, which causes him to be very restless, frequently lying down and suddenly rising again; he looks round to his flanks, and endeavours to strike his belly with his hind feet: his ears and legs are cold, and the violence of the pain often occasions profuse perspiration. A quick pulse, and redness of the inner surface of the eye-lid, should be considered as characteristic marks of this complaint, when accompanying the above symptoms. It is necessary to give a particular account of this disorder, because bowel complaints, that is, what is commonly named colic, gripes, fret, &c. frequently happen to horses; and I am inclined to believe, that indigestion from improper feeding, flatulency from cold water unseasonably given, and other errors, are generally the causes of inflammation of the bowels. When inflammation has taken place in the bowels, in a considerable degree, medical aid will avail but little; therefore we should be particularly attentive to those symptoms, which indicate its approach and its commencement. In this, as in all other cases of internal inflammation, bleeding is the first remedy, and it must not be done sparingly. If the animal is costive, glysters and a dose of castor oil are proper; but if the bowels are loose, arrow-root or wheat-flour gruel should be given. The belly and sides are to well rubbed with the mustard embrocation. (See *Mustard*.) The legs also may be stimulated by the same means. If this treatment fails of giving relief, and the pulse becomes quicker and difficult to be felt or numbered, there will be no chance of the animal's recovery; but if he becomes easier, and the pulse slower and more distinctly to be felt, a favourable termination may be expected: it will be necessary, however, to allow only a moderate quantity of soft

food, such as bran mash, until he is perfectly recovered. A frequent cause of inflammation of the horse's bowels is immoderate purgation: it has been ascertained, that five drams of good aloes are, in general, a sufficient purging dose for a saddle horse; need we wonder, then, that double this quantity, which is often given, should sometimes produce a violent and dangerous effect? In such cases it is not advisable to attempt to suppress the excessive evacuation by means of opium or cordials: a safer and more effectual method is to drench the animal frequently, if he refuse to drink it, with gruel made of arrow-root, starch, or wheat-flour; he may be allowed to drink also decoction of rice: should this fail, about half an ounce of tincture of opium may be given twice or three times in the twenty-four hours. Inflammation of the bowels is sometimes attended with costiveness, both in horses and other animals; this is known by the dung being voided in small hard knobs, generally covered with slimy matter, sometimes mixed with blood: here, the first object is to procure an evacuation of the confined excrement, by means of oily laxatives and glysters (see *Laxatives*); and as the disease is most commonly produced by what is termed a Chill, that is, suddenly suppressed perspiration, and is accompanied by fever, other remedies are necessary. See *Chill*, *Molten Grease*, and *Dysentery*.

BOWEL-GALLED. A horse is said to be bowel-galled, when the girth frets and inflames the skin between the elbow of the fore leg and the ribs. The part should be washed frequently with a solution of acetate of lead (sugar of lead) in water, about one ounce to two quarts of water: and the proper application of a crupper will serve to prevent its recurrence.

Box. The leaves of this shrub are said to have the

property of destroying worms, and with this view are sometimes given to horses: they have been said also to possess a purgative quality.

BRACKSHAW OR BREAKSHAW. See *Dysentery*.

BRAIN. The intimate though invisible connection between this important organ and the stomach causes its functions to be often disturbed both in horses and other animals: thus, in cases of indigestion, the brain is the part that appears to be principally affected: it is sometimes, however, diseased independently of the stomach; and the affections to which it is most liable are inflammation and dropsy. The former complaint is indicated by violent delirium, redness of the membranes of the eye, and strong pulsation of the temporal arteries; the animal often becomes quite furious, so that it is dangerous during the paroxysm for any one to approach him: after a little time, he generally becomes quiet, and sometimes lies down apparently in a dying state; the delirium, however, returns, and he becomes more violent perhaps than at first. In this way the animal sometimes continues one, two, or even three days; when suppuration takes place in the brain, nature becomes exhausted, and death puts a period to his suffering. I have often had occasion to remark, that in all cases of internal inflammation, copious and early bleeding is the grand, the essential remedy. In this case, however, it is, if possible, more particularly necessary; and the most ready way of obtaining a speedy and sufficient evacuation is by opening both temporal arteries, and allowing them to bleed until the animal becomes perfectly quiet, or even faint. If this cannot be accomplished, both jugular veins should be opened, and the bleeding continued by tying a cord round the neck so tight as to keep up a constant flow of blood from both orifices; but the cord should never be applied until the veins have

been opened. (See *Bleeding*) To prevent a recurrence of the disease, a dose of physic should be given ; and it will be necessary for some time afterwards to feed him rather sparingly, principally with bran mashes or green food.

Dropsy of the Brain does not often occur to horses or cows, but sheep appear to be more liable to the disease than other quadrupeds. The symptoms of the disorder in horses are variable. In one case there was a considerable degree of dulness and heaviness about the head, the pulse not much affected, loss of appetite ; the animal appeared as if suffering much pain in the head, generally keeping it lower than the manger : these symptoms were followed by delirium, convulsions, and death. In another case, where probably the water had accumulated very gradually in the cavities of the brain, the horse appeared to be free from pain, except when put suddenly into brisk motion, when he would fall down in violent spasms : the fit seldom lasted above a few minutes. This horse, being of scarcely any value, was destroyed, and, upon examining the brain, about six ounces of water were found in its ventricles or cavities. In the treatment of this complaint, Mr. Blaine recommends diuretics and mercury, with a view to procure an absorption of the accumulated fluid : perhaps, in an early stage of the complaint, a strong mercurial purgative, assisted by a blister to the head, and a rowel between the branches of the under jaw, may remove the disorder ; but at any later period, there does not appear to be any chance of a cure. Sir George Mackenzie has described two kinds of this disease, which sometimes happen to sheep ; the first consists of an accumulation of water in the ventricles of the brain, which is considered to be incurable ; the other, which is most common, arises from animalculæ called hydatids. In this case, the water

is contained in cysts or bags, unconnected with the brain, on which, however, if not prevented, it acts fatally by pressure: very soon after water has begun to collect, either in the ventricles or cysts, the animal subjected to the disease shows evident and decisive symptoms. It frequently starts, looks giddy and confused, as if at a loss what to do. It retires from the flock, and sometimes exhibits a very affecting spectacle of misery. Various methods of relieving the pressure of the brain have been proposed, and, when put in practice by patient and skilful hands, most of them have succeeded; but a method has been found of perforating the cyst, which has succeeded perfectly in numberless instances: this operation consists in "thrusting a piece of wire or a knitting-needle up the nostrils, and forcing it through the skull into the brain." (*A Treatise on Sheep*, by Sir George Mackenzie.) The brain is subject to other diseases, which do not appear upon dissection, to depend upon any alteration in its structure, upon inflammation, or upon an accumulation of water in its cavities. See *Epilepsy*, *Giddiness*, and *Megrims*.

BRAXY or SICKNESS. A complaint very common among sheep, which, in Scotland, is termed *watery braxy*: they describe also a dry and a costive braxy. The former is said to depend upon a retention of urine, caused by feeding too freely on succulent diuretic food, and resting too long in their lairs in the morning. The disease, therefore, may be prevented by avoiding too free a use of such food, and by moving them from their lairs or pens early in the morning, in order to encourage them to pass their urine. All diuretic medicines are of course highly improper in this complaint. The costive braxy is said to be produced by eating hard dry food, drinking cold water when the body is overheated, or its being plunged into water while in that state; or suddenly

drenched with rain or chilled by a shower of snow. In this kind of braxy, a dose of salts, about two or three ounces, glysters, and bleeding are the proper remedies. The dry braxy appears to be an inflammatory affection, particularly of the bowels, for which bleeding, castor-oil, and glysters are suitable remedies.

BREAKING DOWN. An accident that often happens during violent exertion, as in racing. According to Mr. Blaine, it depends upon a rupture of the suspensory ligament of the leg. This accident, I believe, occurs but seldom, and the injury thus named is more commonly a severe strain of the sheath of the flexor tendon or back sinew. (See *Strain*.) When the ligament is ruptured, it may be known by the increased obliquity of the pastern; the fetlock joint, when made to sustain any weight, being bent nearly to the ground. The animal, however, retains the power of moving the pastern, which would not be the case if the tendon were ruptured. A perfect cure can hardly be expected in this case, though the horse may be rendered serviceable for the purposes of agriculture. The ends of the ruptured ligament are to be brought as near to each other as can be, in which situation they are to be kept until a reunion has taken place. There will be some difficulty in accomplishing this: a high-heeled shoe would perhaps contribute materially towards it: the bandage, which must be employed on the occasion, should be kept constantly wet, with a solution of acetate of lead in cold water. After some time, when it may reasonably be presumed that a reunion has taken place, the heels of the shoe should be gradually reduced.

BRIMSTONE. See *Sulphur*.

BROKEN KNEES. After washing the wound carefully with warm water, apply a poultice if the injury

is considerable; and renew it morning and evening until the swelling and inflammation of the knee have subsided; stimulating applications will then be proper; such as a solution of sulphate of copper (blue vitriol), or sulphate of zinc (white vitriol). When the wound does not appear to heal under this treatment, try the following ointment:

Ointment of yellow rosin, four ounces.

Oil of turpentine, two drams.

Red precipitate finely powdered, half an ounce.—Mix.

Should the new flesh rise above the surface, sprinkle on it some finely-powdered burnt alum. In slight cases of broken knee, it will be sufficient to wash the part several times a day with a cold solution of acetate of lead (sugar of lead), about one ounce to a quart of water: this in two or three days will remove any inflammation or swelling the blow may have produced; camphorated mercurial ointment may then be applied to hasten the growth of hair on the part.

BROKEN WIND. A disease to which horses are very liable, and generally produced by bad management either with regard to exercise or diet. As to the cause of broken wind; there have been various opinions; Gibson and Bartlett thought it was often brought on "by injudicious or hasty feeding young horses for sale, by which the growth of the lungs and all the contents within the chest are so increased, that the cavity of the chest is not capacious enough for them to expand themselves in and perform their functions." Bracken says, "as the asthma in mankind, so a broken wind in horses is produced from thick mucilaginous juices in the windpipe and lungs." From the investigation of Mr. Coleman, it appeared that broken wind is caused by a rupture of some of the air cells of the lungs, in consequence of which the air gets into the cellular membrane. According

to Mr. Richard Lawrence, "the most common appearance of the lungs in broken-winded horses is a general thickening of their substance, by which their elasticity is in a great measure destroyed, and their weight specifically increased, at the same time that their capacity for receiving air is diminished." I have examined the lungs of broken-winded horses without observing this general thickening of their substance; on the contrary, they have appeared specifically lighter and larger than in the natural state. Two horses that were purchased for the purpose of making experiments, and so badly broken-winded as to be useless, I particularly remarked. In the first, the lungs were unusually large, and there was evidently a considerable quantity of air in the cellular membrane, but it was not ascertained, whether this air had escaped from the air cells, or had been generated within the common cellular membrane of the lungs. The other horse was kept about a month in a field where there was no water and very little grass. When taken up, he appeared perfectly free from the disorder; he was however shot, and upon examining the lungs, they had not the slightest appearance of disease. About twelve months ago I purchased a horse completely broken-winded; he had been for a considerable time the property of a gentleman who valued him highly, but his wind became so bad as to render him useless, therefore he was sold; the purchaser finding him incapable of working after a short trial, was glad to get rid of him for a small sum. He then fell into my hands. By allowing him only a small quantity of hay sprinkled with water, giving cold bran mashies, mixed with a moderate quantity of oats, and only a small quantity of water, taking care at the same time that he had regular but moderate exercise, his wind became gradually better, and at this time he appears perfectly free from the complaint. These cases, with

several of a similar kind I have met with, seem to prove, that broken wind does not always depend on an alteration or disease in the structure of the lungs, but upon some morbid secretion in the branches of the windpipe or air cells, or perhaps from their becoming emphysematous. See *Emphysema*.

It is stated in Rees's Cyclopædia, under the head Broken Wind, "that after opening more than ten broken-winded horses, the lungs were uniformly found emphysematous." This complaint is generally allowed to be incurable; but it may often be alleviated, and sometimes in such a degree as to be scarcely perceptible. Constant attention however is necessary with regard to his food, &c. which should be rather of an opening kind, such as bran mashes, with a quantity of oats proportioned to his work; green food may also be given in moderate quantity, or carrots. When ridden, his exercise should at first be moderate, and he should not be taken out immediately after feeding. I have seen small doses of diuretic medicine given daily, or every other day for a short time, so as to increase the horse's urine in a moderate degree, afford great relief; such medicines, however, must not be given so as to cause and keep up excessive staling, as the kidneys might thereby be injured. Horses that have but indifferent appetites either for hay or water should be allowed green food; but in broken wind this is not often the case; more commonly they have almost constant thirst, and unless prevented by a muzzle, will eat even their litter. As far as my observation goes, this disease most commonly happens to horses that have such voracious appetites; whenever therefore this is observed, the horse should be limited in his diet; and if he shows any disposition to eat his litter, a secure muzzle must be employed. See *Cough*, and *Wind*.

BRONCHIA. See *Windpipe*.

BRONCHOTOMY. The operation of opening the wind-pipe for the purpose of removing any substance that may have lodged in its upper part or larynx. There is no danger or difficulty in this operation. See *Choking*.

BRUISES. In severe bruises, bleed and give a purgative, and foment the part, or apply a poultice; should matter form, it is to be treated as an abscess; but if a hard callous swelling remain, an attempt should be made to disperse it by rubbing it well with some stimulating embrocation, such as—

Soap liniment, four ounces.

Liquid ammonia, one ounce.

Or,

Camphor, }
Oil of origanum, } of each two drams.

Olive oil, two ounces.

Liquid ammonia, one ounce.—Mix.

Should these embrocations fail, recourse must be had to a blister. See *Treatise on Veterinary Medicine*, vol. ii.

BUCK EYES. A term used by dealers and jockeys for diseased eyes.

BUCKTHORN. The juice of the buckthorn berry was formerly much used in medicine as a purgative, and farriers often employed it. Its effect however is so very inconsiderable in the horse, that it is now rarely if ever used even in the composition of purging balls.

BUFF. A name commonly given to that yellowish jelly, which is found on the surface of blood that has been drawn from an animal labouring under an inflammatory disorder. This gelatinous coat, in proportion to its thickness, pretty accurately denotes the degree of general inflammation that exists, and its appearance indicates the necessity of further bleeding. It is also named size, and blood with this appearance

is said to be sizy. In fact, it consists of the coagulable lymph of the blood, from which the red particles or colouring matter have prematurely subsided. See *Blood*.

BULL, to make Cows take. A mischievous practice has been recommended by old Markham, and copied by Clater and Skerrett, of giving for this purpose half an ounce of Spanish flies, with grains of Paradise, &c. Surely common sense should dictate to every one, that the only safe and effectual method of accomplishing this end is to bring the animal to a perfect state of health and condition.

BULL, Burnt. A local disease affecting the sheath of the bull, which upon being drawn will be found inflamed and ulcerated. In order to examine the part, the bull must be thrown and placed on his back. The yard is then to be gently drawn out of the sheath, and well bathed with the following lotion:

Powdered sulphate of zinc (white vitriol),
four ounces.

Powdered acetate of lead (sugar of lead),
six ounces.

Water, one gallon.

These are to be well shaken together, and filtered through blotting paper. When this cannot be conveniently done, let the mixture stand for some time, and the clear part may be poured off for use. By washing the part three or four times, and sometimes only once with this lotion, a cure will generally be effected; but should it fail of healing the ulcers, let each of them be carefully touched with lunar caustic, previous to the whole being washed with the lotion. It is said that the passage of a cow is sometimes affected in the same way, in which case the part may be syringed with the same lotion.

BURGUNDY PITCH. A resinous substance procur-

ed from some kind of fir. It is used in the composition of plasters and charges.

BURNS or SCALDS. In slight cases it is sufficient to wash the part frequently with cold Goulard lotion; but in more serious accidents of this kind, it is proper to bleed also.

Gibson mentions the case of a horse that was dreadfully burnt by the explosion of gunpowder; he succeeded by bleeding, giving glysters and nitre with mashes, and washing the parts with a lotion composed of "two ounces of crude sal ammoniac, dissolved in one quart of water. When the solution is complete, add gradually spirit of wine one quart. With this the sores were bathed several times a day, which brought them to digest, and a great deal of the burnt skin came off; but in the end he got well without any considerable blemish."

BURSÆ MUCOSÆ. See *Windgalls*.

BURSTENNESS. See *Rupture*.

BUTTER OF ANTIMONY, *Muriat of Antimony.* A powerful liquid caustic, often used by farriers in the cure of quittor, canker, fistula, poll-evil, &c.

BUTTERIS. An instrument used by farriers to pare the horse's hoofs. See *Shoeing*.

C.

CACHEXY. A term now seldom used. It implies a vitiated state of the solids and fluids of the body.

CÆCUM. The blind gut; so named because it is open at one end only. In the horse this part of the intestines is remarkably large, and is generally the first part that presents itself on opening the abdomen of a dead horse. See *Intestines*.

CALCULUS. See *Stone*.

CALAMINE or **CALAMINARIS**. An ore of zinc, which, after being roasted or calcined and finely powdered, has been used as a drying or healing application to ulcers. It is the principal ingredient in the celebrated Turner's cerate, and has been employed also in the composition of eye-waters.

CALKINS or **CALKERS**. See *Shoeing*.

CALLOUS. This term in farriery is applied to hard indolent swellings, such as that which often remains after a severe strain of the back sinews. A swelling of the knee in consequence of falling sometimes continues, after the inflammation that produced it has subsided; it is then free from tenderness and unusual heat, and is said to have become callous. Various means have been proposed for dispersing such swellings; such as camphorated mercurial ointment, oil of origanum, &c. but nothing is so likely to prove effectual as blistering, which may be repeated twice or three times if found necessary, taking care that the effect of one is quite gone before another is applied; and this may be more readily accomplished by washing the blistered part frequently with cold Goulard water, beginning three or four days after the application of the blister. In callous swellings about the back sinews, firing is the best remedy.

CALOMEL. A well-known and very useful preparation of quicksilver or mercury; it is used as an alterative and as a purgative: for the latter purpose it is generally joined with aloes, ginger, and soap; when given as an alterative, it may be mixed with a small cordial ball. Calomel is an excellent remedy for worms; for which purpose it is either given alone for three or four successive nights, and then worked off by a common dose of physic, or joined with a sufficient quantity of aloes, &c. to act at once as a purgative. As an alterative, the dose of calomel is from one to two scruples; as a purgative, joined with

aloes, from one to two drams. When given to destroy worms, and repeated for three or four days, the usual dose is about a dram. When employed alone as a purgative, it has been given to the extent of half an ounce; but this has been seldom done, and perhaps there are but few cases in which it would be deemed prudent to venture on so large a dose.

CALVING. At the end of nine lunar months, the period of the cow's gestation is complete; and about a fortnight or three weeks before this time, what is termed Springing takes place. The space then between the shape and the udder becomes redder than usual; the udder enlarges, and the ligaments or joinings of the bones termed the Couples, on each side the rump, are by degrees giving way, till a yielding or something like a separation of them can be felt. When these appearances show themselves, the cow is at her full time, and should be narrowly watched, as she hourly may be expected to calve. Immediately before calving, the animal appears to be uneasy, the tail is elevated, she shifts about from place to place, and is frequently lying down and getting up again; the labour pains then come on, and by the contraction of the womb the contents are gradually pushed forward. At first the membranes appear beyond the shape like a large bladder of water; this soon bursts, and after the water is discharged, the head and fore-feet of the calf are protruded beyond the shape; the body next appears, and the delivery is soon complete. In a little time afterwards some trifling pains take place, which separate the after-birth or cleansings, and then the process is finished. Such is the usual course of what may be termed a natural calving, and the time of it seldom exceeds two hours in the whole; sometimes, however, it is protracted to five or six, or even longer. When the water-bladder breaks early in calving, and before the mouth of

the womb is sufficiently expanded, the process is often slow, and it is a considerable time before any part of the calf makes its appearance. In such cases Mr. Skerrett thinks it necessary to assist nature by introducing the arm into the uterus, and laying hold of the fore-legs, to bring them gradually, as the pains occur, into the passage, by which means the delivery is soon accomplished: he observes, however, that such interference should be carefully avoided, until it appears absolutely necessary. He strongly reprobates the practice of driving the animal about when symptoms of calving appear; which proceeds from an erroneous opinion, that the process will thereby be facilitated; he has known many instances of its having proved fatal. It happens more frequently with the cow than any other quadruped, that the calf, instead of presenting in the usual way, that is, with the head and fore-feet, is so situated in the uterus, that delivery is rendered difficult and sometimes impracticable, without assistance. In such cases, it becomes necessary to introduce the hand, and change the position of the calf. When, for example, the head presents without the fore-legs, which are bent under the breast; it cannot in this position be drawn away without endangering the animal's life. In this case, the calf is to be gently pushed back into the uterus, so as to admit of the fore-legs being drawn gradually and carefully out into the vagina. It may be necessary then, particularly when the calf is unusually large, or when the passage of the cow is comparatively small, as is sometimes the case the first time of calving; to place cords round the feet and under-jaw, and whenever the pains occur, to assist nature in gradually extracting the calf. On some occasions, considerable force has been found necessary for this purpose, and no ill consequence has ensued from it; but it should be

recollected, that nature is never to be interfered with in the process of delivery, unless it is first clearly ascertained that assistance is absolutely necessary. The preternatural positions of the calf, which at times occur, are various, and have been well described by Mr. Skerrett in his *Treatise on the Parturition of the Cow*, &c.

CALVES, Diseases of. The principal diseases of calves are diarrhoea or scouring, and costiveness. The former should not be hastily interfered with; it is often a salutary evacuation; but when it becomes violent, or continues longer than a day or two, some means must be employed for checking it. The most simple remedy should be first tried; such as gruel made with wheat-flour or arrow-root, with two or three drams of prepared chalk twice or three times a day. If this fail, add to the chalk two drams of tincture of opium, a dram of ginger, and four ounces of peppermint-water. In obstinate cases two or three drams of catechu may also be given; and the dose of tincture of opium increased. Glauber's salt and castor oil are the best remedies for costiveness; the dose of each is from six to eight ounces, if given separately; if joined, about four of each.

CALX. See *Lime*.

CAMPHOR. A powerful antispasmodic. The dose from one to two drams. See *Veterinary Materia Medica*.

CANADA BALSAM. See *Balsam*.

CANCER. There is no disease, I believe, incident to horses or other domestic animals, which at all resembles the cancer of the human body. Gibson, however, has described cases which he supposed to be cancerous, that occurred to horses affected with farcy and glanders; he speaks also of cancers arising in consequence of rowels being placed in glandular parts, and of cancerous warts. I have seen such

eases as Gibson has described, but cannot conceive that they bore any resemblance to the disease named cancer in the human body. See *Farcy*, *Warts*, and *Sinus*.

CANELLA ALBA OF WINTER'S BARK. A pleasant aromatic stimulant, sometimes joined with bark or other tonics; the dose three or four ounces. It yields by distillation a heavy oil, which is sometimes used to adulterate oil of cloves, but it does not materially injure it.

CANKER. An obstinate and often incurable disease which attacks the horse's foot. It more frequently happens to draught-horses than to the saddle or blood horse, and to the hind than the fore-feet. Canker generally first appears in the cleft of the frog, which discharges matter of a very offensive smell; thence it gradually spreads to the other parts of the foot, and if not checked, ultimately affects even the tendons, ligaments, and bones. If canker be attended to at its commencement, a cure may generally be effected without much difficulty, merely by removing carefully all the horny matter, that may be detached from the sensitive parts, and washing the diseased surface twice a day with a strong solution of blue vitriol. It generally happens, however, that the disease is unobserved or neglected until it has made considerable progress; and then the cure is often extremely difficult. The first thing to be done, in whatever stage the disorder may be, is to cut away completely all the horny matter, which may be found to cover a diseased surface, and afford a lodgement for the fetid matter which formed. This must be done freely; it is better to pare away too much than too little. Some practitioners go so far as to remove the whole of the bottom of the foot, or *draw the sole*, as it is termed; and in cases of long standing, where the disease has spread under

great part of the horny sole, it is, perhaps, the most effectual method of exposing completely the diseased parts.

Mr. St. Bel strongly recommends it ; and, indeed, all practitioners agree in considering the complete removal of the horny matter, which covers the diseased sole, or frog, or bars, as an essential and indispensable operation.

The fungous matter which arises from the cankered surface should be freely cut away, and when the bleeding which follows shall have ceased, some mild caustic is to be applied. Mr. Blaine recommends a solution of lunar caustic ; one dram to two ounces of water ; or blue vitriol, alum, and white lead, of each one ounce, finely powdered, and sprinkled on the part ; he then advises to apply very carefully a firm but regular pressure on the whole surface, by means of tow, keeping it on by narrow plates of thin iron placed across each other, having their ends under the shoe ; for it must be remembered, he says, that firm permanent pressure is the only thing to be depended upon, when the exuberant or fungous part has been removed. According to Mr. Feron, in his *New System of Farriery*, " tar and vitriolic acid mixed together make a real specific for canker, as well as thrushes ;—or take powdered verdigris, one pound and a half ; burnt alum, half a pound ; red lead, half a pound ; treacle, four pounds ; nitrous acid, one ounce ; boil the whole to a proper consistence, and when cold add the nitrous acid." It is necessary to dress a canker every day, examining the foot carefully each time, and removing any horn that may be found covering a diseased surface. In inveterate cases the strongest caustics may be employed with advantage, until the cankered parts begin to look more healthy, and the offensive smell has been corrected. The sulphuric and nitrous acid

have been used undiluted with good effect; but these powerful caustics must be applied carefully, and to such parts only as are in a foul cankered state: butter of antimony is a useful caustic for this purpose; powdered sublimate, red precipitate, and burnt alum have also been recommended. When the canker appearance and smell have been corrected, milder dressings are proper; such as,

Friar's balsam, two ounces.

Sublimate, one scruple.

Or,

Tar, four ounces.

Sulphuric acid, two drams.

Oxen and sheep are liable to a disease similar to canker, which sometimes appears between the claws of the divided hoof; at others it exists in only one of the claws, appearing by a crack in the sole or crust, from which a fetid discharge first issues, a luxuriant fungus then forms, and the disease ends in the loss of the claw. If there be only a discharge, Mr. Blaine advises the application of astringents; and if a fungus has formed, the opening is to be enlarged, and the excrescence removed; after this, he directs a hard pledgit of lint, sprinkled with powdered blue vitriol and alum, to be applied exactly within the edges of the wound, and firmly bound on the part; this is to remain three days, and then, if no fungus appears, a pledgit of lint only is to be applied.

CANKER IN THE EARS OF DOGS. An obstinate ulceration of the skin of the ears, generally at the lower edge. A mixture of soft soap, sulphur, and verdigris, rubbed in every day, has been recommended for it; also the ointment of nitrated quicksilver. Stronger applications, however, are sometimes necessary, such as lunar caustic; when this fails, the diseased part should be cut off, and the sore dressed

with some mild astringent, such as a solution of alum, or white vitriol.

CANON or SHANK BONE. The bone between the hock and fetlock joint of the hind-leg, or the knee and fetlock joint of the fore-leg, is thus named.

CANTHARIDES, SPANISH FLIES. These insects are selected from herbs and bushes, but particularly from the poplar and ash in Spain, Italy, and the southern parts of France. The common method of killing them is by the steam of vinegar; they are afterwards dried in the sun: they require to be kept close from the air, and will seldom retain their vesicating quality more than two years: those should be preferred that are of a bright colour, and free from dust. The effects of cantharides, (which are destroyed by heat,) are said to arise from an acrid resinous substance, possessing the power of inflaming and excoriating the skin, and of producing a plentiful discharge of serum. (See *Blisters*.) Cantharides are seldom given internally, but in several books on farriery we find them prescribed in the dangerous dose of half an ounce, as a provocative for cows when they refuse the bull. (See *Markham*, *Clater*, and *Skerrett*.) I have seen the tincture of cantharides produce a good effect in a case of incontinence of urine in a horse; but the disease returned a short time after the medicine had been discontinued. A horse that had been in an emaciated state for a considerable time, notwithstanding he had been carefully attended and fed, and had taken mercurial purgatives and tonics, was supposed to have an incurable disease of the mesentery, and was therefore chosen as a proper subject to try the effect of cantharides upon. The first dose was half a dram, which produced no visible effect; the next day he took one dram with the same result: after this, the

dose was gradually increased daily, until it came to half an ounce; and even then it appeared to act only as a moderate diuretic. The horse was then sent to grass, and at the end of two months taken up in good condition. In two other experiments that were made upon glandered horses, it produced considerable irritation of the bladder in the dose of one dram.

CAPELET. A kind of wen that sometimes arises on the point of the horse's elbow. When they are inflamed and tender, they should be bathed frequently with cold Goulard water—on ounce of Goulard's extract to one quart of water. If they feel soft, and appear to contain a fluid, let them be opened, and the part afterwards dressed with solution of blue vitriol for a few days. When they are of a firm consistence, they should be carefully dissected out, taking care to preserve the skin. When they do not appear to cause any inconvenience to the animal, it is better perhaps to do nothing with them.

CAPIVY. See *Balsam*.

CAPPED HOCK. A hard swelling on the point of the horse's hock, produced by a blow, and sometimes from what is termed a Humour, remaining after a general swelling of the hind-leg has been removed. It very rarely occasions lameness, and requires only to be bathed at first with cold Goulard lotion. When the swelling continues, blisters have been recommended; I have however several times seen them employed without any good effect. As no inconvenience arises from such a swelling, should the cold bathing fail, it is better to leave it to nature.

CAPSICUM, Cayenne Pepper. A powerful stimulant, sometimes given in small doses as a cordial, particularly in cases of indigestion. See *Staggers*.

CAPSULAR LIGAMENT. The ligament by which the ends of bones are joined together, round which they form a complete sac, which serves also to confine the synovia or joint oil. See *Joint*.

CARAWAY SEED. This is generally an ingredient in cordial preparations, and is considered also a good carminative. It may be given in doses from one to two or three ounces.

CARDAMOMS. A dried pod with seeds brought from the East Indies. They are sometimes used in cordial medicines.

CARDIACS. See *Cordials*.

CARDIALGIA, Heartburn. It is probable that horses and cattle are not subject to this disorder.

CARDITES. Inflammation of the heart. See *Heart*.

CARDUUS BENEDICTUS. The blessed thistle; a bitter aromatic plant, formerly employed by farriers as a stomachic, or strengthener of the stomach.

CARIES. An ulceration or rottenness of the surface or other part of a bone. In fistula of the withers, and poll-evil, the bones are often thus affected: I have often met with a caries of that part of the under-jaw next the tush, in consequence of the improper pressure of the bit. The most effectual remedy for caries is to scrape off with a drawing knife, or other convenient instrument, the diseased part of the bone, and dress afterwards with tincture of myrrh or Friar's balsam.

CARMINATIVES. Medicines which tend to expel wind from the stomach or bowels by their antispasmodic quality. The most effectual of this class are opium, ether, turpentine, and other essential oils. See *Colic*.

CAROTID ARTERIES. Two large arteries which lie immediately under the jugular veins, and are therefore liable to be injured by bleeding unskilfully with a lancet, particularly when the orifice is made too low down in the neck.

CARTILAGE OF GRISTLE. A smooth, elastic, and insensible substance. They are chiefly in those places where a small and easy motion is required, as in

the ears, nose, windpipe, and breast : they cover also the ends of bones which are joined together for motion, because they are smoother than bones ; they are without feeling ; and being softer than bone, the attrition that is made by the motion of joints is the more easily guarded against. Cartilages are covered by a delicate membrane named perichondrium.

CASCARILLA BARK. A powerful aromatic bitter, often employed as a stomachic or tonic. The dose two or three drams.

CASTING. A term used for throwing down a horse or bullock. The mode of casting a horse has been minutely described and illustrated by a plate in the fourth volume of the author's *Treatise on Veterinary Medicine*, where all the principal operations of farriery are likewise described ; but the method commonly practised for throwing a bullock is somewhat different.

Take a long rope, double it, and tie a knot about a yard from the end, so as to leave a bow of sufficient size to go round the bullock's neck, which being put on, the two ends are to be brought between the fore-legs and round the hind pasterns, then back again and through the bow. By standing in front of the animal, and drawing up the ropes quickly, so that his hind-legs may be brought up towards his chest, he is easily thrown down ; while in this situation, the ropes are to be secured, and then any operation may be safely performed.

CASTOR. A substance taken from the beaver. We find it prescribed in old books on farriery, but in modern practice it is seldom employed. Gibson directs half an ounce of it to be given in convulsions, with other medicines. I am inclined to believe, that it does not possess much medicinal power.

CASTRATION, CUTTING, or GELDING. An operation often performed on horses and cattle. For a

particular description of this operation, consult the fourth volume of the *Treatise on Veterinary Medicine*. I wish, however, to add, that a few days since I castrated three horses, one of them five years old, the two others aged; each of them had covered about an hour before the operation, which was performed in the manner pointed out in the above volume. No dressing was applied, they were not even cleaned; but the next morning they were turned to grass, and no further notice taken of them. In about a week they appeared to be quite well, except a little discharge from the wound. In this case, the operation was performed under the most unfavourable circumstances, and in the middle of August.

CATAPLASM, or POULTICE. This application, when designed to promote suppuration in a swelling, or remove inflammation occasioned by a blow, is best made by mixing together three parts of fine bran and one part of linseed meal; pouring a sufficient quantity of boiling water upon the mixture, to bring it to the consistence of a thin paste; and confining it to the part in such a way, that no swelling shall be caused by the bandages. A poultice should always be renewed once in twelve hours; for when it approaches towards dryness, it tends rather to aggravate than remove the disease, for which it has been employed. In the accidents which usually occur to horses, there is generally difficulty found in securing poultices, without making so much pressure by the bandages employed as to cause swelling, and rather defeat than promote the intention for which they are used: on all such occasions, it is better to trust to a frequent application of warm water, or any thing in the form of fomentation; such as a decoction of herbs, or things commonly employed for the purpose. One thing should always be observed in the application of poultices; that is, the method by which they are fast-

ened; perhaps there is nothing better for the purpose in diseases of the lower parts of the limbs, where they are most commonly required, than a worsted stocking, kept up by list or flannel bandage, &c.

CATARACT. An incurable disease of the horse's eyes, consisting of an opacity, either total or partial, of a part which is naturally transparent. I call this disease incurable; because though we can, as is often done in the human subject, remove it by an operation, such an imperfection of sight would remain as to render the horse more dangerous to ride than if he were quite blind. Some reasons, however, may be adduced for occasionally attempting the removal of cataract; but I fear that any attempt of the kind would generally prove fruitless.

I cannot, however, dismiss this article without observing, that the *partial* cataract sometimes met with, in which there are only one or more small opaque spots in the pupil, so situated as not to prevent materially the admission of light to the retina, is not of so much consequence as it is often supposed to be. As the eye is so important an organ in the horse, so liable to injury, and when diseased renders him so useless, we may say dangerous, to the rider, the subject will be more amply treated of in another part. See *Eye*.

CATARRH. This is more familiarly known by the term Cold, and is a disease which happens more frequently perhaps than any other. It is generally caused by exposing a horse to a current of air, or to a cold wind or rain; and is more likely to be produced if the animal has been previously heated by exercise, or accustomed to a warm stable and warm clothing. The most common symptoms are cough, dullness of the eyes, which are sometimes inflamed and watery, and want of appetite either for food or water. In more severe cases the throat becomes

sore, so as to render swallowing difficult; and sometimes the glands under the jaws, as well as those under the ears, are swollen. These symptoms are commonly succeeded by a discharge of matter from the nostrils, which is generally beneficial. In slight cases there is scarcely any alteration in the pulse or appetite; but sometimes there is a considerable degree of fever. In the first volume of my *Farriery* I have recommended early bleeding, and observed, that if it is delayed until a discharge from the nostrils has taken place it seldom proves beneficial. I have here however to remark, that subsequent experience has proved to me, that whenever the disease is severe, the cough very troublesome, and especially if the pulse is unusually quick, bleeding will afford much relief, however considerable the discharge from the nostrils may be; and that when bleeding is employed at an early period of the complaint, it should not be done sparingly, unless there be such a degree of weakness as to render it evidently improper, which is very seldom the case: for by taking off four or five quarts of blood at once we save much trouble, and render the disease mild and of short duration. Should the symptoms not abate in two or three days, the operation is to be repeated. If the bowels are open, the only medicine necessary is the fever powder or ball twice a day, composed of

Nitre, one ounce.

Emetic tartar, one dram and a half, or two drams.

But it must be observed, that whenever there is any degree of soreness of the throat, much harm may be done by endeavouring to give either a ball or drench, particularly the latter. In such cases the medicine should be put into the horse's mash; but if it appears to prevent him from eating it, let the medicine be omitted. (See *Quinsy*.) If the horse is costive, or even

if the dung is at all hard, give a laxative. The head should be steamed with hot bran mash, and kept warm by means of a hood; the legs also should be kept warm by rubbing and flannel bandages. The horse must be treated rather carefully after the disease appears to have been in a great measure removed, or it may return, and a chronic cough will probably be the consequence of such indiscretion. Catarrh is sometimes epidemic, that is, appears to attack horses in every part of the country without any known cause: this will be treated of under the head *Influenza*.

CATECHU, commonly named Terra Japonica, or Japan Earth, but improperly, as it is an inspissated vegetable juice. It does good in diseases where powerful astringents are required. The dose from half an ounce to an ounce: it is generally joined with some aromatic, such as cascarilla bark; sometimes with other astringents, as alum: on some occasions opium also is given with it advantageously.

CATHARTICS. Those medicines which cause purging are so named. The Veterinary Materia Medica does not furnish many medicines of this kind, though the old writers on farriery notice a considerable number. Aloes is certainly the principal, if not the only one to be depended on; there are others however of a subordinate kind, or of a less irritating quality, which are occasionally employed, such as the oils of castor, olive, or linseed, and the neutral salts. Calomel also may be considered as a cathartic, if given in a sufficient dose; but it is seldom employed alone for this purpose, being generally joined with a common aloetic purgative. See *Physic*.

CATHETER. A metallic tube employed to draw off the urine, when the bladder is incapable of expelling it. In mares this is easily accomplished merely

by introducing the finger into the bladder, the urethra or passage being sufficiently large and short to admit of it; and the orifice or opening may be readily found between the passage which leads to the uterus, and the nymphæ, or those bulbous parts which are forced out immediately after staling. In horses it is impossible to introduce an instrument into the bladder, unless an opening be first made in the urethra, about three or four inches beneath the fundament. See *Urine, Retention of*. The Catheter for this purpose should be of the same form, but larger than that used by surgeons.

CAUKER. The turning up of the heels of the shoe to prevent slipping. See *Shoeing*.

CAUSTICS are substances that destroy the part to which they are applied. The principal caustics used in farriery are—lunar caustic, sublimate, oil of vitriol, nitrous acid, butter of antimony, and muriatic acid. There are other substances or preparations of less power, and which act more gradually in the destruction of superfluous parts, such as the fungous or proud flesh, and the callous parts of ulcers; these are named *Escharotics*, which see.

CAUTERY, ACTUAL. A red hot iron. See *Firing*.

CAYENNE PEPPER. See *Capsicum*.

CELLULAR MEMBRANE. The substance by which the various parts of the body are united to each other. In some parts the cellular structure is large and readily seen; as between the shoulder blade and ribs, and between the skin and the muscles or flesh; in others it is extremely minute; and in some its existence perhaps can only be inferred from analogy. The cells of which this structure is composed communicate with each other, which is proved by making a small opening in the skin of an animal, introducing a blowpipe, or stem of a tobacco-pipe, and blowing

through it, by which all the adjacent skin will be blown up; and if sufficient power were employed, the air may be thus forced all over the body. (See *Emphysema*.) The cellular structure is often the seat of inflammation and abscess. It should have been mentioned, that the common practice of butchers, of blowing up a shoulder of veal, is sufficient to show that the cells communicate freely with each other.

CEPHALICS. Medicines that are supposed to remove diseases of the head, are thus named.

CERATE. A soft kind of plaster.

CERUSS. See *Lead*.

CHALYBEATES. See *Iron*.

CHAMOMILE. The flowers of chamomile are used in making fomentations; and the essential oil they afford by distillation is sometimes joined with the preparations of iron, Peruvian bark, and other tonics. There is a green oil, named oil of chamomile, kept in the shops, which is often employed by farriers as an ingredient in *strain oils*, as they term them; this appears to be nothing more than common oil coloured with verdigris, or the leaves of vegetables.

CHARGE. This is a kind of plaster much used by old farriers, and sometimes employed in modern practice. The charges of farriers generally contained many useless ingredients, such as dragon's blood, myrrh, gum tragacanth, &c.; but as the intention of a charge is merely to act as a bandage to the parts, very few ingredients are necessary to compose it, such as resin or pitch, common turpentine and wax melted together in such proportions as will form a *stiff* but not a *brittle* plaster: a small proportion of red lead seems to improve the composition; and by some the diachylon plaster is considered a useful ingredient.

CHEST. See *Thorax*.

CHEST-FOUNDER. Gibson describes this disease as a kind of Pleurisy, affecting chiefly the muscles of

the ribs, caused by exposing a horse to cold air, or plunging him into a river after he has been ridden hard or otherwise heated. He says it is known "by a rough staring coat, and heaving of the flanks more than common." He directs bleeding in the flank veins, or those on the inside of the thighs; with a diet of boiled barley and oats roughly ground. Many other directions also are given, and some curious farragoes termed receipts are recommended, which may be seen in his *New Farrier's Guide*. It seems that the chest-founder of Gibson is a rheumatic affection of the muscles by which the forelimbs are moved, as well as those, or some of them, which are necessary to respiration or breathing, (see *Lungs*,) and in fact is the same disease as that which is vulgarly, but very expressively termed a *Chill*. To this article therefore we refer the reader for the practical observations we have to offer on the subject.

CHEWING BALLS. Solleysell and Gibson recommend certain nauseous compositions, of which assa-fœtida is an ingredient, to be placed about the bit of the horse's bridle, and so confined with cloth, that by chewing, their efficacy might be gradually extracted and swallowed. This was intended to promote appetite. Were it designed for a contrary purpose, we should think it likely to succeed.

CHILL. This is a term not to be found, I believe, in any book of veterinary medicine or farriery, though often used by grooms and farriers. It is a disease of importance; and has been often injudiciously treated, from a mistaken notion, that if a horse has been *chilled*, he must of course require medicines of a stimulating or heating nature. This disease appears to resemble the acute rheumatism of the human body, and is perhaps precisely of the same nature. It is either general or local, and always accompanied

with more or less of fever. When a horse has been heated by violent exercise, or fatigued by a long journey, and in this state plunged into a river (a very common practice among post-boys), or tied up in a current of air and washed with cold water, or suffered to stand in cold wind or rain, he will be found after being in a stable a few hours almost incapable of moving, and sometimes it is with great difficulty that he is led out for examination. The breathing is generally quickened, which may be seen by the flanks and nostrils; the pulse also is often very quick, and the membranes of the eye unusually red. Sometimes the fore parts only are affected, at others the muscles of the loins and hind legs, and sometimes it appears to be confined to the fore feet; this last is generally produced by very severe and cruelly unfair travelling or hunting, and cooling the feet suddenly. And in some instances the inflammation has been so violent, that suppuration has followed, and the hoof has separated from the *sensible* foot. (See *Foot*.) In that severe kind of chill first described, bleed to the extent of five or six quarts, and, unless the bowels are open or loose, give a mild dose of physic. The blood which has been drawn, when coagulated, will be found to have a thick coat of buff or size on it; from this appearance we may be assured, that if the pulse does not become slower, the breathing more easy, and the eye less red in a few hours, the bleeding ought to be repeated. When the muscles of the loins are affected, a fresh sheep's or lamb's skin should be placed on them, the flesh side under. In the partial chill the same treatment is proper, though it may not be found necessary to carry the bleeding so far as in the former case. When the foot alone is affected, bleeding and purging are proper; and in every degree of chill it is advisable to take off the fore shoes, pare the soles, and wrap up the feet in large bran poultices for the purpose

of keeping them moist. The last case of general chill that came under my care was of a very severe kind, and considered highly dangerous; one gallon of blood had been taken off two hours before I saw the horse; five quarts more were then taken; as the symptoms had not abated about four or five hours afterward, two quarts more were drawn, which caused faintness; no physic was given, as the bowels were open, but a ball of one ounce of nitre, one dram and a half of camphor. A lamb's skin was thrown over the loins. The next morning the horse was considerably better, and recovered, contrary to the expectation of the proprietor. I forgot to notice, that the fore shoes were taken off, and the feet poulticed; the soles however were not pared, because they were already too thin. For some further observations on chill of the fore feet, see *Inflammation of the Foot*.

CHINE FELON. A term used by old farriers to express a disease in cows, occasioned by exposure to cold and wet weather, especially after having been heated. It appears to be a chill or rheumatic complaint: sometimes the joints are particularly affected, which happens most frequently to old cows; the disease is then named, with the same sagacity as the former, **JOINT FELON**. For these, as for all other complaints, stimulating or heating medicines are recommended. Bleeding and purging however are the best remedies, if we may be at all guided by analogy; and placing the cow in some sheltered situation. The swollen joints should be well rubbed with the *embrocation for strains*. See *Strains*.

CHOLIC. See *Colic*.

CHRONIC. A term used to denote a disease of long continuance, unaccompanied by fever or inflammation. It is employed in contradistinction to the term *acute*, which implies a sharp inflammatory disease of rapid progress, which, if improperly managed, either

terminates in death or some chronical distemper; but when judiciously treated ends in a perfect recovery. Thus Inflammation of the Lungs and Fever are acute diseases, Broken Wind is a chronic complaint.

CHYLE. The nutritious or essential parts of the food, separated from the mass by digestion, and absorbed by certain vessels named Lacteals, the mouths of which cover the inside of the small intestines; by these vessels the chyle is conveyed to the thoracic duct, whence it passes into a large vein near the heart. See *Nutrition*.

CICATRIX. The mark that remains after an ulcer or wound has been healed.

CICUTA. See *Hemlock*.

CINCHONA. See *Bark*.

CIRCULATION of the Blood. See *Heart*.

CLOTHING. A very pernicious custom too generally obtains among grooms, of keeping horses constantly clothed in the stable, making no difference in the warmth of the clothes, whatever the season of the year or state of the weather may be. In a good stable it is probable that, even in winter, it may advantageously be dispensed with; as a horse will be much less liable to take cold when he happens to stand still in a cold easterly wind or rain, which must often be the case with hunters. But when he has been long accustomed to such clothing, there would be danger in a sudden change. When a horse is moulting, or shedding his coat, clothing is certainly useful; and then he requires the greatest care when taken out of the stable for exercise or work. In summer the only use of clothing is to protect him from flies and dust, and for this purpose a thin sheet of calico is quite sufficient.

CLOVES. Writers on farriery have advised twenty or thirty drops of oil of cloves, to be added to a dose of purgative medicine or physic; probably with a

view to prevent it from griping: it does not appear however to have this effect, and perhaps may be safely omitted.

CLYSTERS or GLYSTERS. A liquid preparation forced into the horse's bowels by means of a pewter tube, with a bladder tied at one of its ends. Large syringes are sometimes used for this purpose, but a bladder and pipe are by far the best contrivance. The tube should not be less than a foot in length, and perfectly smooth. The bladder should be large enough to contain five or six quarts.

Clysters are of three kinds, opening, anodyne, and nourishing. For the first purpose take a gallon of warm water, with from half a pound to a pound of common salt dissolved in it, to which add four or five ounces of olive or linseed oil. For the second, take two drams of solid opium; dissolve them, or rather mix them well with about half a pint of warm water, and add from a quart to three pints of fine oatmeal or wheat-flour gruel. For the third purpose rich broths, wheat-flour gruel, and other nourishing fluids are recommended. With respect to the first kind of clyster, it may be observed that gruel is commonly preferred to warm water; but according to my experience the latter does just as well as the former. As to the second, tincture of opium may be substituted for solid opium, and is by some preferred to it; but the quantity should not exceed two ounces, on account of the spirit in which the opium is dissolved. The third kind of clyster is required only in locked jaw, or in diseases of the throat which prevent swallowing; and in these its utility seems to be very questionable. As soon as the clyster has been injected, the tail should be kept close to the fundament for a few minutes, to prevent its being too hastily returned. This is particularly necessary when the anodyne clyster is employed. The pipe must be oiled or greased before

it is introduced; and if its passage be obstructed by hard dung lodged in the gut, the hand should be gradually introduced in order to remove it. Convenient clyster pipes may be purchased at Long's, Veterinary Instrument Maker, Holborn, London.

COAGULABLE LYMPH. See *Blood*.

COCCULUS INDICUS. A decoction of these dried berries is sometimes used to destroy lice. See *Lice*.

COFFIN BONE. See *Foot*.

COFFIN JOINT. See *Foot*.

COFFIN JOINT, *Strain of*. See *Strains*.

COLCOTHAR OF VITRIOL. A preparation of iron, sometimes applied to ulcers as an astringent.

COLD. See *Catarrh*.

COLIC, FLATULENT, *Gripes* or *Fret*. This is a very common disease in horses, and is produced by various causes, such as drinking freely of cold water when heated by exercise; eating greedily of food that is difficult of digestion, such as new hay or oats; eating too much green food when unaccustomed to it; an accumulation of hard dung in the bowels; and frequently it comes on without any apparent cause. Some horses are particularly liable to the complaint, and are griped by the slightest causes; this is generally the case with horses that scour or purge readily even by moderate work, and with crib-biters. When a horse is attacked with this complaint, the pain at first is not often considerable; he appears uneasy and restless, sometimes pawing his litter and looking round to his flank: as the pain increases he lies down, groans, and continues to look round to his flank; he suddenly rises again, endeavours to strike his belly with his hind foot; he then lies down, endeavours to roll upon his back, and sometimes turns himself quite over. When proper remedies are not given, he sometimes continues in this state for several hours; at length however the pain becomes more violent, pro-

fuse sweats break out, the belly swells, and the pulse becomes quick. If not relieved at this period, inflammation takes place in the bowels, which is soon succeeded by mortification and death. On the first attack of this complaint the pulse is seldom altered, and it is sometimes so inconsiderable as to be easily cured by common domestic remedies, such as gin and peppermint-water with some ginger, or warm beer and ginger; at others it is of a more serious nature, and requires the most prompt and efficacious treatment. A great variety of remedies has been proposed for this disease, and perhaps all of them have occasionally succeeded. Taplin has very injudiciously prescribed some carminative medicines in the form of a ball, which of course would require some time to be dissolved in the stomach. Whatever medicine is given should be in a liquid form; and if a ball be taken on a journey for the sake of convenience, it should be mixed with warm beer or peppermint-water before it is given, or even with warm water. Mr. Peck in his *Veterinary Medicine* prescribes one ounce and a half of tincture of opium, and two ounces of spirit of nitrous ether. Mr. Feron recommends four ounces of oil of turpentine, to be given with gruel; and when the symptoms are abated, a cordial composed of one ounce of common turpentine, one scruple of opium, half an ounce of ginger, and half a dram of oil of aniseeds, to be repeated after four hours if necessary. The following is Mr. Blaine's recipe:

Spirit of nitrous ether, half an ounce.

Tincture of opium, half an ounce.

Oil of turpentine, three ounces.

Mild ale or gruel, one pint.

When costiveness is the principal cause, he advises half an ounce of calomel to be given, made into a ball with honey, and immediately after the following drench:

Castor oil, one pint.

Oil of peppermint, one dram.

Oil of juniper, one dram.

Water, four ounces.

To be mixed together with yolks of two eggs. The first thing to be attended to when a horse is attacked with gripes, is, that he is placed in a safe situation, and has a sufficient quantity of litter, as he might otherwise be hurt when rolling about in the violent paroxysms of pain. The state of the bowels is then to be inquired into previous to the attack: if the dung was soft, or if the horse scoured, he may be speedily relieved by

Tincture of opium, from six drams to one ounce.

Sweet spirits of nitre, two ounces.

Gruel or warm water, one pint.

This drench should be washed down with a hornfull of warm water, and then let him be led about for a short time. This will rarely fail of curing the disease; and if it does, the dose may be repeated after an interval of two hours, substituting a pint of peppermint water for the gruel. If the horse has not been observed to dung for some time previous to the attack, or if the dung was hard, in small knobs and of a slimy appearance, it will be proper to give clysters and opening medicines, (see *Clysters*,) in order to remove the hard dung lodged in the bowels, which probably is the cause of the disease; and if the horse is in good condition, more especially if the eye looks red and the pulse is at all too quick or full, it will be advisable to bleed him pretty freely.

Opening Drink :

Barbadoes aloes, powdered, three drams.

Castile soap, half an ounce.

Oil of peppermint, one dram.

Water, five or six ounces.

Mix the soap gradually with part of the water and the oil of peppermint, then mix with it the powdered aloes and the rest of the water; add to this one pint of castor oil, or sweet oil, and six drams of tincture of opium for one dose. This drench will generally give relief, and by clearing the bowels removes the cause of the disorder. The opening clyster should be repeated if the pain does not abate. The horse's belly should be well wiped; or if the pain is violent it may be well rubbed with some stimulating embrocation, such as mustard mixed with water and a little liquid ammonia. Post and coach horses are liable to a very dangerous colic by being driven off at a quick rate when the stomach is full of food; on such occasions the horse should be immediately taken out, and suffered to be at rest until the food is digested: to assist nature in this office it will be necessary to give something strongly stimulating, such as brandy, rum, or gin, diluted with warm water; or if these cannot be procured, warm beer, with a large dose of ginger or pepper. There is another kind of colic, in which the gut breaks through the mesentery and becomes strangulated; this always proves fatal. It is of the utmost importance to distinguish flatulent colic or gripes from inflammation of the bowels; and it should be recollected, that if it is not seasonably attended to, it often terminates in inflammation. See *Bowels, inflamed*; or vol. iii. of *Veterinary Medicine*, p. 115.

COLLYRIUM. Any liquid preparation used for diseases of the eyes.

COLUMBO ROOT. This is much used in diseases of the human body, particularly in cases of indigestion and loss of appetite, but has not been employed, I believe, in veterinary practice.

CONDITION. This term is used to imply a horse being in perfect health, or as Mr. Taplin says, "Fine in coat, firm in flesh, high in spirits, and fresh upon

his legs." For a detailed account of the means to be adopted for promoting condition, the first volume of the author's *Treatise on Veterinary Medicine* may be consulted; p. 227.

CONJUNCTIVA TUNICA. The external coat or membrane of the eye. The conjunctiva covers also the internal surface of the eye-lids, and when the eye is inflamed appears full of small blood vessels. It is this membrane which generally becomes of a blood red colour in inflammation of the lungs, and some other inflammatory diseases.

CONSTIPATION. See *Costiveness*.

CONSUMPTION. In consumption there is a gradual loss of flesh and strength, while the appetite generally continues. Sometimes it is accompanied by a discharge from one or both nostrils and a swelling of the glands under the jaw: such cases are generally mistaken for glanders. Consumption often attacks colts that are kept in poor marshy land, and exposed to rain and cold easterly winds: horses of all ages are liable to it, and I believe the most common cause is that which produces catarrh or cold; that is, exposure to cold when heated by exercise. Gibson has truly observed, that "hot fiery horses are the most subject to consumption, being for the most part naturally weak and washy, and of a hectic disposition." Consumption does not take place suddenly, but is very insidious in its attack; and it often happens, that the complaint is not much noticed till tubercles have formed in the lungs, and the mesenteric glands are diseased. When a colt is observed to become thin, his coat staring, and his skin feeling as if glued to his ribs, he should be immediately taken up, especially if it be in the winter season, or very early in the spring, and the place where he is kept is cold and much exposed. When put into the stable, he should be fed with mash of bran and oats: he should not

be tied up, but suffered to run loose in a box or open stable, and by no means kept very warm, as in that case the change would be too sudden and likely to do much harm. After a short time, when he appears to have gained a little strength, a very mild dose of physic may be given, and after an interval of ten or twelve days repeated. By this kind of management, if the disease has been taken in time, the colt will gradually gain flesh and strength, his coat will become smoother and his skin looser; should it now be the season of the year when good grass can be procured, this will soon perfect his recovery. But if it be too early to get grass, he may be gradually turned out in some sheltered situation, and be allowed a moderate quantity of oats. In the more advanced stages of consumption, where there is a frequent cough, a discharge from the nostrils, and glandular swellings under the jaw, there is no great chance of a cure. In this case moderate bleeding may be necessary, particularly if the pulse is quicker than natural, and the breathing disturbed. Small doses of nitre should be given twice or three times a day. Small doses of calomel have been recommended as an alterative, with a view to remove some obstruction supposed to exist in the mesenteric glands; but I have never seen it do any good. Tonics also have been suggested; but these also, according to my experience, have uniformly failed. In short I think we may safely assert, that when tubercles of any size have formed in the lungs, and particularly if any of them should have proceeded to suppuration, the disease is incurable. I have had an opportunity of examining many horses that have died, or have been destroyed, when in this state; and have almost uniformly found, not only an enlargement of the mesentric glands, but a considerable disease of the great mesenteric artery also, which was generally enlarged to five or six times, and in

some instances, to ten times its natural size; and on laying it open I have always found within it a considerable number of very small worms. Colts as well as horses sometimes become extremely thin, and apparently consumptive, merely through bad keep or starvation; the remedy in this case is sufficiently obvious.

CONTAGION. The communicating a disease from one body to another: thus, if a sound horse stand near one that has the glanders, he will generally contract this disorder.

CONTRACTION OF THE HOOF. See *Hoof, contracted*.

CONTRAYERVA ROOT. In human medicine this was formerly much used as a diaphoretic and febrifuge; but in veterinary practice I believe it has never been employed.

CONTUSIONS. See *Bruises*.

CONVALESCENCE. A recovery of health.

CONVULSIONS. Under this name, writers on farriery, and particularly Gibson, have treated of locked-jaw, staggers, and other diseases, supposed to depend on a morbid affection of the brain; but the term simply implies a diseased action of muscular fibres, known by alternate relaxations with violent and involuntary contractions of the muscular parts.

COPPER. This metal affords a valuable preparation much used in farriery, viz.

Sulphat of Copper (blue or Roman vitriol).

COPPERAS. This name was formerly given to three metallic preparations; viz. *green copperas* (salt of steel or sulphat of iron); *blue copperas* (blue vitriol, Roman vitriol, vitriolated copper, or sulphat of copper): and *white copperas* (white vitriol, vitriolated zinc, or sulphat of zinc).

CORD, SPERMATIC. The part by which the testicle is suspended, and which passes from the abdo-

men through an aperture formed by the tendons of the abdominal muscles, named the abdominal ring.

CORDIALS. Medicines are thus termed which possess warm and stimulating qualities, and give temporary energy to the stomach, and consequently to the whole system. The indiscriminate use of cordials is certainly highly pernicious; but when a horse is exhausted by violent or long continued exertion, they may often be given with advantage; and, on such occasions, will be found more efficacious, if mixed with a pint of ale and given as a drench. As cordials are so generally given on almost all occasions by grooms and farriers, it may be asked how it is that so little apparent mischief is done by them? The reasons are, first, that the ingredients of which the greater part of them are composed are nearly inert with respect to the horse, in the quantity which generally forms a dose. And, in the second place, it should be considered that, supposing the cordial to be composed of active ingredients, it is not by one or two doses improperly given, that the injury is done: a frequent repetition of the practice, however, will gradually weaken the stomach and other parts concerned in digestion, and thereby ultimately produce some formidable disease: from this cause, perhaps, a liability to flatulent colic and indigestion often proceeds. I believe that every good effect, that can be expected from cordials, may be obtained from ginger, caraway seeds, and aniseeds, recently powdered; but if the seeds cannot be procured in this state, their want of sufficient strength may be supplied by the addition of a small quantity of the essential oil, either of caraway, or aniseed, or both. Cascarilla bark may perhaps be a useful addition, when the stomach has been much weakened, and flatulency and indigestion have already taken place; and, on such occasions, the cordial should be exhibited in

warm beer or diluted spirit: hot brandy and water is, I conceive, the best vehicle in such cases. A variety of formulæ for cordial balls may be found in the author's *Veterinary Pharmacopœia*, or 2d vol.

CORDS. A disease incident to young calves, which often proves fatal. It is commonly observed, that calves are most liable to be affected during the first days or weeks after they are dropped; if they outlive five or six weeks, they are seldom in any danger. Calves that suck their mothers are not so liable to the disease, as those which are reared by hand. The greatest number of calves that fall a sacrifice to this disease, if not the whole of them, are those which are closely confined to the house from their birth, without ever being exposed to the free open air. It is a well-known fact, that calves which are dropped without, and remain in the fields, are in little or no danger. *Farmer's Magazine*, vol. iv. p. 59. Mr. Lawrence, in his *Treatise on Cattle*, observes, that "a complaint called the *CORDS* has recently destroyed a number of young calves in Scotland, both such as have been calved abroad and under shelter. Those which are brought up by hand are most liable, and the most dangerous period is the first week or two. The disease is described as plethoric and inflammatory: the animals die red, with a general appearance of contraction of the sinews; whence the name Cords. As a prevention in any suspected subject, the meconium or first excrement may be purged off with syrup of buckthorn or rhubarb in gruel. On access of the disease give as much antimonial powder as will lie on a shilling, or a tea-spoonful or two of magnesia, with as much calomel as will lie on a sixpence. The patient being in danger, tie his legs and immerse him, except the head, in a tub of warm water, and keep him there as long as a comfortable warmth remains in the bath, then rub him completely dry in every part,

and put him in a deep bed of straw: repeat if needful. After all, perhaps this disease is the result of obstructed intestines, from over-feeding or want of exercise, and might be obviated by a timely dose or two of rhubarb and magnesia."

CORIANDER SEEDS. A weak cordial, of an agreeable smell and flavour.

CORNEA. The outer transparent part of the eye. See *Eye*.

CORNS. A disease of the horse's foot often causing lameness. Corns generally happen in the inner heel, or in that part of the sole which lies within the angle formed by the inflection of the crust or wall of the hoof, or, in other words, between the bar and the crust. In their recent state they generally cause some degree of tenderness, though not amounting to actual lameness. If not attended to at this period, the horse soon becomes lame, and when the shoe is removed for examination, the horny matter in the part described will be found, upon scraping off the exterior surface, of a dark red colour, to a greater or less extent, according to the length of time it has existed, or rather to the degree of injury the sensible parts have sustained. If the shoe is not removed at this stage of the disease, which sometimes happens from a supposition that the lameness arises from some other cause, the continued pressure of the shoe on the tender part or corn will at length cause matter to form, which, finding no vent beneath, ascends to the coronet, where it breaks out; even this is sometimes mistaken for a tread, or blow from the other foot, while the real cause is lost sight of. In the treatment of corns in their recent state, or before suppuration has taken place, the method generally adopted is to pare out the red part, or what is termed the *corn*, and so contrive the shoe, that, when applied to the foot, it may have no bearing on the ten-

der part. This, in slight cases, generally affords temporary relief, and enables the horse to go to work again: in a short time, however, the horse's weight causes the shoe again to rest upon the heel, and the inflammation and lameness of course return. The only effectual mode of taking off pressure from the heel is by means of the bar shoe; and this can only be applied where the frog is sufficiently prominent and firm to receive its pressure. For should the frog be considerably lower than the heels (that is, supposing the foot to be taken up, and its bottom part held upward), it must be obvious that the bar-shoe cannot bear upon it, and will therefore be useless. The only thing to be done in this case is to pare away the crust of the tender heel, so that the heel of a common shoe may not rest upon it. I am aware that the original cause of corns is often a natural weakness of the inner heel, or a want of sufficient strength in the horn to protect the sensible parts from the pressure of the shoe: it is from this consideration perhaps that Mr. Budd observes, "We have frequently seen the plan of cutting away the horn (in corns) followed with avidity, on account of the tempory relief it affords; such a plan, however, is deceitful, and dictated by too shallow an idea of the complaint; for though it gives time for the removal of it when existing, still it leaves what may be termed an increased disposition to it, because it deprives the sensitive parts of the protection of which they already stood too much in need; and we have no hesitation in saying, that it is from this mode of treatment solely that some horses are so frequently and indeed almost constantly affected. The best plan, therefore, which can be followed, is to apply a bar-shoe, as this affords more ample means of throwing the pressure off the affected parts: no excision of the horn, we repeat, ought to be resorted to, unless

there is reason to believe, that suppuration has taken place." If no horn is to be pared away in corns, what, I would ask, is to be done in circumstances where the bar-shoe cannot be employed; that is, where the frog is much lower than the heels, or too rotten and tender to bear pressure? Mr. Budd tells us that the shoe is to be "laid off the part;" that is, the shoe is to be so formed, that when applied to the foot, it may not be in contact with the tender heel: this may afford temporary relief, but by one day's work the shoe will be brought to its original form. I am inclined to believe, that corns are often rendered inveterate by trusting to such ineffectual means; for the proprietor, finding his horse relieved, sets off perhaps on a journey; the shoe soon bears down upon the heel again, and the bruise or corn is much aggravated; by dint of spur and whip however the horse is compelled to go on, and when he arrives at the end of the stage, so high a degree of inflammation will perhaps have taken place, that suppuration cannot be prevented. The only mode, I conceive, by which a corn can be either cured or palliated, is to take off all pressure from the diseased parts; and this, not only for a short time, but till the injured sensible part has lost its tenderness, and formed horn of sufficient strength to enable it to bear pressure. While a horse is worked the shoe should be frequently examined, and whenever the heel appears to be so near the diseased part as to be in danger of bearing upon it, it should be immediately removed, and some more horn pared away, so as to leave a considerable vacancy between the heel of the hoof and the heel of the shoe; for even if a bar-shoe is applied, the horn will in time grow down, so as to be in contact with the heel of the shoe. When a horse becomes very lame from a corn, it will be advisable to leave off the shoe for a short time, and apply a large bran poultice.

When tenderness is perceived about the coronet, and a little matter is seen oozing out, the horn at the heel should be pared away, that the matter may escape freely. The exposed part may be dressed at first with a solution of blue or white vitriol, afterwards with tincture of myrrh or Friar's balsam. For a more detailed account of this subject, the author's 3d volume may be consulted, p. 166.

CORONARY BONE. The small pastern. See *Foot, Structure of*.

CORONARY LIGAMENT. When the hoof has been separated from the sensible foot, as represented in the frontispiece to vol. i. of the *Veterinary Medicine*, a protuberance will be observed immediately above the elastic laminæ or membranes; this Mr. Coleman has named the coronary ligament: Mr. Bracey Clarke, however, does not consider it as a ligament, but the skin in a thickened and condensed state.

CORONET. The upper part of the hoof, immediately adjoining the skin of the pastern.

CORROBORANTS. Medicines which increase the strength of the body. See *Tonics*.

CORROSIVE SUBLIMATE, or MURIATE OF QUICK-SILVER. This is the most active of the mercurial preparations. It is sometimes used internally in farcy and obstinate diseases of the skin, but requires to be given with great caution. Though in some experiments made upon glandered horses, the immense dose of two drams was given twice a day, and continued some time without producing inflammation of the stomach or bowels; yet, at another time, I have seen it do mischief even in small doses. See *Sublimate*; also the *Veterinary Materia Medica*, or vol. ii. and vol. iii. p. 61. of the author's *Veterinary Medicine*.

COSTIVENESS or BINDING OF THE BELLY. By this

term is implied a preternatural or morbid detention and hardening of the excrement, a disease to which every animal is subject, but the horse perhaps more than any other. It arises for the most part from want of exercise, when a horse is kept upon hard dry food, as oats or beans; but in some horses it appears to be habitual. Costiveness is often the cause of colic, and sometimes of inflammation of the bowels; therefore, whenever it is observed, a dose of laxative medicine should be given, and opening clysters thrown up to remove any hard excrement that may be lodged in the rectum or last gut. (See *Clysters*.) To prevent a return of the complaint, regular exercise and a change of diet are necessary: green food is the best for the purpose; but if this cannot be procured, bran mash should be substituted. When a horse is naturally disposed to costiveness, a bran mash should be given twice or three times a week instead of oats, and now and then a little green food. Cattle also are liable to a dangerous kind of costiveness, termed *fardel-bound*; and in this case, there is sometimes an appearance of slight purging, probably from the liquid parts passing between the indurated excrement and the gut, by which the practitioner may be deceived. A laxative or purging drench should be given in this disease without loss of time. (See *Laxatives* and *Purgatives*.) Calves also are subject to costiveness, particularly when first put to dry meat; it is highly necessary in this case to give immediately some laxative medicine. The following formula will be found to answer the purpose: Epsom or Glauber's salt, from three to six ounces, according to the age and strength; Castor oil from two to four ounces. When costiveness appears to have brought on any degree of fever, which is indicated by quick pulse and redness of the membrane under the eye-lids, and this is often the

case in horses; or, if it is accompanied with uneasiness or pain in the bowels, it will be proper to bleed the animal.

COUGH, CHRONIC. This disorder is often a consequence of a neglected cold, and is sometimes caused by allowing a horse that has an inordinate appetite, to eat too much hay and drink too much water: it may also be produced by what is termed Foul Feeding, that is, when a horse is disposed to eat his litter in preference to hay. Indeed, we often find that horses with voracious appetites, when stinted in hay, will soon eat their litter, however filthy it may be. For the first kind of cough, bleeding, mashes, and a dose of the following powder twice a day are perhaps the best remedies; taking care that the horse is not exposed to wet or cold, until the disease is perfectly removed: should this fail, let some pectoral balls be given, for which a variety of receipts may be found in the author's first volume of *Veterinary Medicine*, p. 360, or in the *Veterinary Pharmacopœia*. The powder is to consist of one ounce of nitre and two drams of emetic tartar; and this should be continued until the horse stales considerably more than usual. With respect to the second kind of cough, or that which is caused by voracious or foul feeding, no good can be expected from medicine, unless the horse's diet be properly regulated: he should be allowed only a moderate quantity of hay and water; taking care that the former is of the best quality, not mow-burnt, and free from dust. To prevent him from eating his litter, he should constantly wear a muzzle, except at the time he is eating his allowance. The medicines employed for the cure of chronic cough are very numerous. In the formulæ recommended by writers on farriery we generally find galbanum, assafoetida, ammoniacum, Barbadoes tar, balsam of sulphur, balsam of Peru, garlic,

Castile soap, cinnabar, &c.; in short, almost every article in the *Materia Medica* has been occasionally put in requisition to subdue this formidable disorder; and, after all, I believe it will be acknowledged by those who have given every plan a fair trial, that much more may be done by proper attention to the horse's diet and exercise, than by any of them or all of them put together. It should have been observed before, that horses with chronic cough should have their bowels kept rather open than otherwise, by giving occasionally bran mash; and, if necessary, a small dose of laxative medicine.

Cows, *Delivery of*. This subject has already been treated of under the head *Calving*. I trust, however, the following general rules, given by Mr. John Lawrence in his *Treatise on Cattle Medicine*, will not be thought superfluous:—Timely assistance before the cow is exhausted. Extraction never to be attempted in an improper position: supple the hand and arm with warm water and fresh lard: examination best made, the cow standing, and in the interval of the pains. In pulling at the feet enclose the claws in the hand, that the horn may not bruise the cow: navel-string bursting and the usual flux of blood of no consequence. Instruments to be used only in the last resort, and by experienced and steady persons only. The proper hook is of hard iron, four inches long, with a loop for the cord at the straight end. See *Calving*.

CRACKS IN THE HEELS. These are generally a consequence of negligence or want of cleanliness: sometimes they occur, particularly in winter, without any fault of the groom. After washing the cracks with soap and water, and afterwards with warm water alone, that no soap may remain on the sores, take of finely-powdered alum, one ounce; pipe-clay powdered, two ounces—water enough to form them

into a thin paste about the consistence of cream. This paste is to be spread over the heel with a soft painting-brush, and repeated for three or four days, by which time the cracks will be found nearly healed. It will then be necessary, in order to soften the parts, to apply the following ointment:—bees' wax, two ounces; best olive oil, six ounces; melt them over a very slow fire, and then add of white lead, finely powdered, two ounces—let the whole be thoroughly mixed. These cracks are merely local, though by their irritation they sometimes cause swelling of the leg. The horse should be turned loose into a box, and be fed with bran-mashes: exercise will rather tend to retard the healing of the cracks, particularly if it exceed walking, or if the horse be taken upon wet or dirty roads. When cracks are much inflamed and very sore, it will be proper to apply a poultice for two or three days before the astringent paste is used. If any medicine is given, perhaps the diuretic alterative is most useful; and as the horse is not to be exercised, it may prevent any ill consequence which might otherwise ensue.

CRACKS, SAND. See *Sandcracks*.

CRAMP. An involuntary and painful contraction of the muscles of a part, generally of short duration. Rubbing the part with some stimulating embrocation is the best remedy.

CRANIUM. See *Skull*.

CRAPAUD. The French name for canker.

CRAPAUDINE. See *Tread*.

CRAPULA. A disease described by Topham in his book on cattle medicine, for which he particularly recommends bleeding. It appears to be precisely the same complaint we have treated of under the head *Blown* or *Hoven*.

CRASIS. A term applied to the blood, when there is such a mixture of its principles as to constitute a

healthy state ; hence, in dropsy and scurvy, the crisis of the blood is destroyed.

CRASSAMENTUM. The red globules or colouring matter of the blood, mixed with coagulable lymph ; or rather, the red coagulum or jelly-like substance which blood becomes, soon after it is drawn from an animal. See *Blood*.

CREAM OF TARTAR. A well-known acid substance of little or no use in farriery ; Gibson, however, recommends it as “ a gentle purge,” but “ brisk in its operation, and passing off readily by urine.” He says it may be dissolved in warm ale, and mixed with syrup of buckthorn : this mixture he advises to be given occasionally to horses and cattle, as an alterative, or in the jaundice. It is sometimes mixed with purgatives, from a mistaken notion that it prevents griping.

CREMASTER. A muscle which surrounds the spermatic cord as it passes out of the belly, and then goes to the cellular membrane of the scrotum, where it is lost. Its use is to suspend and draw up the testicle.

CREPANCE. See *Cracks*.

CRESCENT. See *Pumice Foot*.

CRIB-BITING. A disagreeable and injurious habit which young horses sometimes acquire : it consists in their laying hold of the manger with their teeth, and apparently sucking in air ; making, at the same time, a peculiar noise. Some writers have imagined that crib-biting depends upon flatulency or some irritation in the stomach, and that there is more probably an expulsion than a swallowing of air. I have seen a horse's belly swell considerably after crib-biting, and in some instances they will contrive to suck the air, as it is termed, without laying hold of any thing ; besides, it is well known, that by placing a healthy young horse near a crib-biter, he will generally, in a

short time, acquire the same habit. The usual mode of preventing it is to put a leather round the neck, as tight as can be, without impeding swallowing or breathing. Another plan is to cover the edge of the manger with a sheep's skin, the wool side outward. Others have recommended keeping straw in the manger, and abridging his allowance of hay, or taking away his rack and manger, making him eat his hay from the ground, and his oats from a nose-bag. It is a vice which certainly lessens the value of a horse considerably, as it tends to induce weakness of stomach, and consequently indigestion, and flatulent colic.

CRICK IN THE BACK. An injury of the muscles of the back, causing a difficulty and stiffness in motion. It is sometimes slight, and soon removed by rubbing the back with stimulating liquids, or by covering it with a fresh sheep's skin; at others it is of a more serious nature, and sometimes incurable; in this case a horse is technically said to be chinked in the back, or broken-backed. It is probable that the injury is not confined to the back in such cases, but that the vertebræ or back bones, or the ligaments uniting them, are also affected. The best thing to be done in this complaint is to cover the horse's back with the adhesive plaster or charge; and turn him to grass.

CROCUS. See *Saffron*.

CROCUS METALLORUM. Liver of antimony. See *Antimony*.

CROPPING. This operation is now rarely performed; a particular description of it will be found in the author's fourth volume of *Veterinary Medicine or Farriery*.

CROWN SCAB. A scurfy eruption round the coronet. In the first place let it be well washed with soap and water, then apply the yellow ointment, or

ointment of nitrated quicksilver for a few days, by which it will be soon cured.

CUBEBS. A dried fruit resembling pepper, but less pungent; brought from the East Indies.

CUD. The food contained in the first stomach of a ruminating animal, which is returned to the mouth to be chewed at the animal's leisure.

CUD or QUID, Loss of. The old writers on farriery seem to have had but a very imperfect knowledge of this complaint. Mr. Lawrence says, that the cause is a laxity or weakness of the muscular fibres of the first stomach, and a consequent inability to expel the food for the purpose of rumination. This weakness may arise, he observes, from various causes; and the intention of cure, he says, is to brace the fibres and strengthen the system. Warm mashcs of bran and ground oats are first to be given; the animal is then to take from four to six drams (according to his strength) of aloes and rhubarb, of each equal quantities; salt of tartar, half an ounce; aniseeds powdered, one ounce—in gruel or beer; he is to have good sweet hay, in small quantities at a time; and after two or three days, he advises the following drench to be given:

Bark,	}	of each half an ounce.
Gentian,		

Ground ginger, a tea-spoon full.

Warm ale, a pint.—Moderately sweetened.

To be given twice a day, and continued a while; or occasionally a decoction of horehound, camomile, and carduus, sweetened. The rough astringents, such as alum, verjuice, &c. used by cow-leeches in this disease, he observes, are highly improper, and sometimes have fatal effects.

CUMMIN SEEDS. A weak carminative and cordial.

CURB. A swelling on the back part of the hind leg, a few inches below the point of the hock, generally causing lameness. Blistering is the remedy commonly recommended, and if properly managed, it generally removes the lameness, but not always permanently; I have in several instances known the lameness to return when blistering alone has been trusted to, and have found it necessary to resort to the actual cautery or firing. I am inclined to think that it is the best plan to depend on firing only, and to perform the operation as soon as the disease is observed. I am aware that in this opinion I differ from many practitioners of the present day, many of whom have their favourite specifics for curb; all of them consisting of some blistering ingredients, the basis of which is Spanish flies, but rendered more active by euphorbium, sublimate, &c. When the blistering process is preferred to firing, it will be proper to repeat the application after the effect of the first has ceased. For a more particular account of this subject the author's third volume of *Farriery* may be consulted.

CUTIS. The skin or hide which lies under the cuticle. Besides the cuticle and skin, horses and other large animals have a muscular expansion which lies immediately under the latter, called the *Fleshy Panicle*, by which the skin is moved, so as to shake off dust or flies, or any thing that hangs loose upon the hair.

CUTICLE or SCARF-SKIN. A thin insensible membrane, which covers and defends the true skin. It is this which forms the bladder which is raised by blisters.

CUTTING. A horse is said to cut, when he strikes the inner and lower part of the fetlock joint in travelling with his hoof; and not with the edge of the shoe, as smiths generally suppose. Cutting often de-

depends on a faulty position of the feet, the toes inclining too much outwards: the usual mode of correcting this is to make the inner heel of the shoe higher than the other, not by turning it up, but by a gradual swell from the quarter to the heel. Young horses sometimes cut, merely through fatigue and weakness; and in some horses this failing depends upon an awkwardness in going, which neither shoeing nor any thing else can correct. When a high trotting horse inclines his toes inward in going, he is apt to strike himself on the inside of the fore-leg immediately below the knee; this is termed the Speedy Cut, and is considered dangerous, as the pain which the blow occasions often causes him to fall suddenly: this failing can seldom be prevented effectually; the only thing to be done is to take care that there is no superfluous horn in the striking part, to raise the inner quarter and heel of the shoes, and not suffer them to project beyond the hoof. The clenches of the nails should be examined and beaten down whenever they appear to rise in the slightest degree above the horn. Mr. Morecroft has suggested a plan for the prevention of cutting, which is the opposite to that I have described. He observes that when a horse is at rest, he supports his weight equally on both feet; but having the inner quarter much raised, when one foot is elevated he must be supported obliquely upon the other, and hence have a tendency to fall outwards; to prevent which he brings the moving foot nearer the supporting one, by which he strikes it; but by elevating the outer instead of the inner side of the supporting foot, it gives it a disposition to lean inward, and fall to the inside, which will throw the moving farther from the supporting foot. Mr. Morecroft's reasoning is certainly very ingenious, and in a few instances I have found his plan succeed; but by no means generally. Dr.

Bracken is not, perhaps, far from the truth when he observes, that "as a goose will always go like a goose, so a horse that cuts so far as to break the skin will hardly ever leave such ill faculty." Bracken's *Art of Farriery*.

CUTTING. See *Castration*.

D.

DEBILITY. Weakness, either general or local.

DECOCTION. The process of extracting the virtues of a substance by boiling it in water. The liquid so prepared is also termed a decoction.

DEFLUXION. A falling down of humours from a higher to a lower part. Most writers mean nothing more by it than an increased secretion and discharge of mucus from the nostrils, or tears from the eyes, in consequence of inflammation.

DENTITION. The process of teething. Young horses sometimes lose their appetite and become feverish when cutting their teeth, particularly the corner teeth and tushes. In such cases bleed, give a few doses of nitre and mashes, and wash the inflamed gums with a solution of alum.

DIABETES. Excessive staling, attended with great thirst, and often with some degree of fever; the urine is evacuated in large quantities at a time, of a pale colour and transparent, nearly resembling water. It appears to be generally caused by bad oats and hay, and has often occurred in regiments of cavalry.

Mr. Denny, of the 10th Dragoons, says he has seen more than a hundred horses labouring under the disease at the same time. When the 1st or Royal Dragoons were in Ireland, many horses were affected with diabetes. It does not appear to have been ascertained how far this disease corresponds

with the diabetes of the human body, particularly in one essential point, that is, the sweetness of the urine. Though it is not positively stated, yet we may infer that all Mr. Denny's patients recovered; therefore it is probably a different disease from that which affects the human body, which, I believe, very rarely admits of a perfect cure. Gibson describes a kind of diabetes, which, he says, is the result of long continued sickness, old surfeits, or the effect of hard riding, hard labour with low feeding, and in horses of a weak constitution is very difficult to cure. He says, "the horse soon loses his flesh and appetite, grows feeble, his hair stares, and his bones stick out, his eyes look weak and watery; and when it is of long standing, he grows unfit for all kind of business. I have seen several horses with this malady, but they are often incurable unless in the beginning; for the staling in a true diabetes is not soon conquered; it usually ends in rottenness." Mr. Blaine in describing this disease observes, that the urine is milky or watery: in all the cases I have seen or read of, except Mr. Blaine's, the urine has been transparent, nearly resembling water. According to Mr. Denny, the following plan will be sufficient to effect a cure. On the first discovery of the disease give the following ball, morning and night:

Alum, two drams.

Bole,	}	of each half an ounce.
Peruvian bark,		
Ginger, two drams.		

Treacle enough to make a ball.

Mashes are to be given two or three times a day, and a moderate quantity of lime-water should be administered for drink: walking exercise and warm clothing are necessary; and the body should be well rubbed, particularly the legs. Mr. Ryding gives the following formula:—Take of

Peruvian bark, twelve ounces.

Grains of Paradise, two ounces.

Gentian, three ounces.

Honey, sufficient to form sixteen balls.

One to be given every morning. In four cases that came under my care many years since, bark, opium, and ginger perfectly succeeded; but they were all recent cases. I have been informed by a correspondent, that he found Mr. Watt's plan, of copious bleeding, joined with Dr. Rollo's, of giving animal food, even in a putrid state, successful in one case; and I have been informed that Mr. Coleman has recommended and adopted Dr. Rollo's method of cure; but I do not know with what success. This method consists in making the animal abstain, as much as possible, from vegetable food; and giving him broth, and balls made of flesh, mixed up with wheat flour; giving as little drink as possible. Beside the remedies above-mentioned, other tonics and astringents are occasionally employed: as oak bark; catechu or japan earth; muriate of iron; white vitriol, &c. Other recipes may be found in the author's *Farricry*, vol. 1.

DIACHYLON. A plaster made by boiling litharge and oil together.

DIACODION. A syrup made from a decoction of the heads of white poppies. It possesses an anodyne and narcotic quality, similar to opium.

DIALTHÆA. See *Althæa*.

DIAPENTE. A bitter powder much used by farriers in strengthening drenches. It is composed of gentian, birthwort, bayberries, and myrrh, in equal proportions.

DIAPHORETICS. Medicines which promote insensible perspiration, or excite moderate sweating. See *Sudorifics*.

DIAPHRAGM, Midriff, or Skirt. A muscular and

tendinous substance, which divides the cavity of the chest from the abdomen or belly. The diaphragm is essentially necessary to respiration or breathing. See *Respiration*.

DIARRHŒA OF SCOURING. This disease often happens to horses from eating new oats or hay, and is then of little importance, as it soon ceases when the diet is changed, or when the stomach has become accustomed to such new food; but should it continue, let them drink freely of gruel made of wheat-flour; and if this fail, give the astringent ball. When there is reason to suspect that the diarrhœa depends upon worms in the bowels, or other hurtful matter lodged in them, give in the first place a ball composed of two drams of aloes, three drams of rhubarb, and three drams of soap. If it appears to arise from exposure to cold, or from drinking freely of cold water when heated by exercise, sound wisping and warm clothing are proper; gruel also will be found useful. In obstinate diarrhœas, accompanied by loss of flesh and appetite, and considerable debility, there is generally some disease either of the liver, or other internal part, which generally proves fatal.

Astringent Ball.—Take of

Caraway seeds, recently powdered, six drams.

Catechu, two drams.

Ginger, one dram.

Opium, half a dram.

Treacle enough to form a ball.

This may be repeated the following day, if necessary; the horse continuing to drink the gruel of wheat-flour, or arrow-root. Some horses of delicate constitutions are attacked with diarrhœa, whenever they are put to any considerable work; such horses should take a cordial ball, with the addition of two or three drams of catechu, before they go out; and as soon

as they return from hunting or other exercise, which usually brings on the complaint.

DIASCORDIUM or **ELECTUARY OF SCORDIUM**. An elaborate, or rather a hotch-potch kind of preparation, now seldom used. The principal and efficient ingredients are opium, cassia, bark, cinnamon, long pepper, and ginger. It contains also many useless articles, among which is scordium, or water germander; from which it takes its name.

DIATESSERON. An electuary of very great antiquity; it takes its name from being composed of four ingredients, viz. bay berries, gentian, round birthwort, and myrrh; of each equal parts. These are to be formed into an electuary with honey.

DIET. The best diet, I believe, for horses that work moderately, is good hay and oats; but for such as are employed in more severe labour, beans are certainly useful. Fresh clover hay, cut up as chaff, is a useful addition to either. Horses that are used merely for exercise, and taken out only occasionally, should have bran mashes now and then, or be fed constantly with a mixture of bran and oats; this is particularly necessary if the horse is disposed to costiveness; and in such cases, a little green food or carrots will be of service. Some horses thrive, and look sleek with half the quantity of food, that is required to produce the same appearance in another; such horses should be fed accordingly, and be allowed no more than is really necessary. Horses that feed voraciously, and have a craving appetite for water, should be allowed only a moderate quantity of either; and if they eat their litter, they should constantly wear a muzzle, except at the time of feeding. For more particular instructions on this subject, the reader may consult the first volume of the *Veterinary Medicine or Farriery*, page 247. See also *Feeding*.

DIGESTION. The change which food undergoes in the stomach, so as to become fit for the nourishment of the body. Healthy or good digestion depends chiefly upon the following circumstances: a perfect mastication, or chewing of the food; a proper supply of saliva, and of that peculiar fluid formed in the stomach, termed *gastric juice*; and a due degree of strength in the stomach and other subordinate parts concerned in digestion, as the liver, pancreas, and intestines. (See *Indigestion*.) For an account of the various causes which prevent horses from getting into condition as it is termed, see the 1st vol. of the author's *Veterinary Medicine*, p. 227.

DIGESTIVES. A term applied to such ointments or other preparations as tend to excite a healthy discharge from ulcers or wounds, and thereby promote their healing. The following ointment will be found to answer the purpose:

Digestive Ointment. Take of yellow basilicon, or ointment of yellow resin, eight ounces; common turpentine strained, four ounces. Melt over a slow fire, and when fluid, stir in of powdered verdigris, two ounces. Continue to stir the mixture until it is cold.

DIGITALIS, Foxglove. This has been much employed in human medicine, but it does not appear to have been ascertained how far it may be employed with advantage in the diseases of horses and cattle. I have been informed, that it has been given with success as a palliative in broken wind. In the experiments I have made with it, the most remarkable effect was that of diminishing or taking off entirely the appetite, which did not speedily return. The dose was from half a dram to a dram of the dried leaves powdered. I believe, but am not certain, that in some experiments made with it at the Veterinary College upon a glandered horse it proved fatal. Any

farther experiments, therefore, which may be made to ascertain its curative power in the diseases of horses, should certainly be conducted with great caution.

DILUENTS. Those substances which increase the proportion of fluid in the blood. Water, perhaps, may be justly considered as the only diluent.

DISCUTIENTS. A term applied to those substances, which have a power of repelling or dispersing tumours.

DISLOCATION or LUXATION. The displacing a bone from its natural situation or cavity, an accident that seldom happens to horses, and when it does, it can rarely, if ever, be remedied.

DISTEMPER in Dogs. This term is applied also to horses and cattle, when affected with epidemic catarrh; but I shall confine myself in this place to that formidable disease in dogs, which is commonly named *Distemper*; and for an account of the epidemic catarrh of horses and cattle, the reader is referred to the article *Influenza*, and the fourth volume of the author's *Farriery*, p. 151.—The symptoms of the distemper are not alike in every case, but vary considerably; the following are its most usual appearances. It generally begins with a dry husky cough, attended with dullness and want of appetite, a running from the eyes and nose, and a loss of flesh. As the disease advances, the dog appears much emaciated and grows excessively weak; particularly in the hind-legs and loins. Convulsive twitchings of different parts, especially of the head, come on, attended with dimness of sight; and as the disease proceeds and puts on a more virulent form, these twitchings degenerate into strong convulsive fits, which continue for a long time, and repeatedly return. In these fits, the dog runs round, foams at the mouth, and appears to be in great pain, and to have a constant desire to dung. This is sometimes attended with obstinate



costiveness, at others with violent purging. The stomach is extremely irritable; every thing taken into it being immediately thrown up. When the disease has reached this state, the animal seldom recovers, and is generally carried off in one of the convulsive fits. According to Mr. Blaine, "The peculiar weakness, which attacks the loins and hind-legs in this disease, sometimes appears very early and very suddenly; in other cases it does not appear at all, even though the termination should be fatal. Many cases of distemper put on a putrid appearance: this is common where the attack has been violent at first, and rather sudden; and in these instances the disease lasts, even with violence, for two, three, or four weeks, producing every appearance of putrid fever; the running from the eyes and nose being very foetid, and often bloody; the stools black, liquid, and very offensive, and the animal weak, restless, and very irritable." Mr. Blaine considers the distemper as a specific catarrhal affection; the inflammation generally extending down the windpipe to the lungs, or down the gullet to the stomach and bowels: in some cases both these passages are affected. In the beginning of the distemper, it is generally adviseable to give an emetic, for which purpose two or three grains of tartarized antimony, or the same quantity of turpeth mineral may be given. A tea-spoonful of common salt dissolved in a little water will also answer the purpose very well. After the operation of the emetic, should the dog be costive, or if the bowels are not already open, give a purgative of calomel and jalap, or calomel and aloes, in doses suited to the age and size of the animal: about two grains of calomel, with eight or ten of jalap, or five or six of aloes, will perhaps be found sufficient for a young pointer three or four months old. The dog should be kept in a warm situation, well-bedded and

clean, be liberally supplied with warm rich broth and warm milk, and when the purgative has operated, solid animal food may be allowed, as beef, mutton, or horse-flesh; boiled. When the eyes, nose, and head are much affected, a large seton in the neck will be found useful; when costiveness is attended with great weakness, castor oil is the safest purgative: when the distemper is accompanied by vomiting and purging, the animal throwing up his food soon after it has been swallowed, from twenty to thirty drops of tincture of opium should be given, or about one grain of solid opium, according to the age and size of the dog; when the purging is excessive, he should be made to take frequently some arrow-root gruel. Mr. Blaine recommends in this case gum arabic and chalk, and when the purging has been effectually checked, a mixture of his distemper powder and Peruvian bark. Mr. Daniel, in his 'Rural Sports,' says he has witnessed extraordinary effects in the distemper from James's Powder, given in the following manner: when the symptoms of the distemper are apparent, a third part of one of the parcels in the half-crown packet is to be given, mixed with a little butter, and the dog is to have plenty of warm broth or milk and water, and, if possible, he is to be near a fire, or at least kept very warm. Two hours afterward another third part is to be given, and should neither of these operate by vomiting or purging at the end of four hours, give the remaining third. Should the first two portions have the effect, the remaining third should not be given until four or six hours (according to the evacuations) after the expiration of the four hours; in the mean time, the dog should be encouraged to lap, and if he refuses, be forced to take plentifully of warm broth or milk and water. It very seldom happens, even when the case is inveterate, but evacuations are brought on by the

taking of one parcel, generally by the second dose; but should it so happen, that there is no such proof of the powder's effect, the second parcel should be divided and given in a similar manner, until the stomach is emptied. I have lately been informed by a friend, who was an eye-witness to the fact, that copious bleeding, with a purgative of calomel, aloes, and assafoetida, proved successful in a very bad case of distemper. I was told, that this person uniformly adopts the same mode of treatment, and that he is so confident of success, that he undertakes the management of a distempered dog conditionally; that is, if he does not effect a perfect cure, he is not to receive any thing for his trouble.

DIURETICS. Medicines which increase the discharge by urine: diuretics may be given either in the form of balls or powder, receipts for which will be found in the *Veterinary Pharmacopœia*; but as some horses of delicate appetite refuse to eat the powder in their corn, the ball should, in such cases, be preferred. In dropsical swellings of the legs or other parts, diuretics are highly useful; they are also beneficial in chronic cough, and have in many instances proved the best palliative for broken wind. They are commonly given when a horse is observed to stale with difficulty, or when the urine is foul and of a whitish or whey colour, and often with good effect; it is necessary, however, to distinguish carefully between such cases, and inflammation of the kidneys or bladder. (See *Urine, Retention and Suppression of.*) Horses that are frequently rubbing themselves, or have pustules breaking out on different parts of the skin, or such as are disposed to those swellings commonly termed Humours, generally derive much benefit from the use of diuretics: they should not, however, be continued too long at one time, as considerable weakness would probably be

the consequence. The practice adopted by some grooms, of giving strong diuretics upon every trivial occasion, and often without any reason whatever, is highly injurious; the bladder and kidneys are often rendered so irritable by such indiscretion, that a horse will be obliged to stale several times during a short ride, and if urged to go on by an inconsiderate rider without being allowed to stale, some serious disease of the bladder may ensue. I am inclined to believe, that the kidneys are sometimes considerably enlarged by the frequent use of strong diuretics, and that I have seen them incurably diseased from the same cause. A good diuretic ball may be made with

Soap, half an ounce.

Powdered yellow resin, half an ounce.

Common turpentine, two drams.

Aniseed or caraway-seed powder, as much as will form a ball.

The diuretic powder may be made by mixing together

Nitre, half an ounce.

Yellow resin, half an ounce.

Tartarized antimony, one dram.

See *Veterinary Pharmacopœia*, or vol. ii. of the *Veterinary Medicine*.

Docking. Cutting off part of the tail: the instrument used for this purpose is represented in plate 2, fig. 2, in the 4th vol. of the author's *Farriery*, where the operation also is described. I have only to observe here, that the earlier this operation is performed, the better will the horse *carry his tail*, as it is termed; it should never be delayed beyond the first year, and then very little if any searing will be required. It has been said, that by keeping up the tail in an almost perpendicular direction at the time

of docking, and searing it in that position, nicking would be rendered unnecessary.

DRASTIC. A term applied to purgatives that operate powerfully.

DRENCHES or DRINKS. When it is necessary that any medicine should operate speedily, as in cases of colic or gripes, this is the best form in which it can be given. Cattle medicine is always given as a drench, though Mr. John Lawrence seems to think, that a ball would be often a more desirable form: those who have an opportunity of making the experiment on cattle might easily ascertain whether there be any well-founded objection to the exhibition of a ball. Drenches are usually given by means of a bullock's horn, the large end cut in the form of a spout; a bottle is sometimes substituted for it, but there is danger of its being broken in the horse's mouth. In giving a drench, the tongue is to be held down with the left hand, and the head being moderately elevated, it is to be poured gradually down the throat. The head is to be kept in this position until the drench is swallowed; but if the animal happen to cough while the drench is in his throat, the head should be immediately let down. In preparing drenches, farriers generally make use of ale, but this can only be proper for cordial drenches; on other occasions, water or gruel is the best vehicle. When the throat is inflamed and sore, no attempt should be made to give drenches.

DROPSY. This disease consists in a collection of serous or watery fluid, either in the circumscribed cavities of the body, as the abdomen or belly, the chest, and ventricles of the brain, or in the cellular membrane under the skin. (See *Cellular Membrane*.) The latter kind of dropsy is most common in animals, and often exists unaccompanied by the former; but whenever there is a collection of water in the cavities,

there is generally at the same time dropsical swellings externally. External dropsy, or anasarca in medical language, is often named Water-farcy by farriers; and many of them have acquired considerable reputation for their success in curing the farcy; but there is not the least analogy or affinity between the two diseases; and their boasted specifics are generally strong diuretics, mixed with many useless ingredients. External dropsy sometimes affects particular parts, as the legs, belly, chest, or lips; at others, it is diffused over great part of the cellular membrane. A dropsical swelling may be distinguished by its coldness, and by its retaining the impression of the finger for some time. Those swellings which sometimes affect the legs and other parts, in consequence of high feeding without sufficient exercise, arise from an inflammatory state of the system, and are soon removed by bleeding, exercise, and mild diuretics; but that kind of dropsy which arises from a weakened state of the system, and particularly when attended with an accumulation of fluid, either in the chest or abdomen, is not so easily got rid of, and sometimes terminates fatally. Colts are subject to a dangerous kind of dropsy, which is accompanied with quick pulse and loss of appetite, but without any remarkable appearance of inflammatory affection. The swelling generally begins about the sheath, extending to the belly and chest, and gradually increases until it becomes of an alarming size, particularly in the belly. When the disease terminates in death, a large quantity of fluid is found either in the chest or belly, often in both; the pericardium or heart-bag also partakes of the disease. On the commencement of this disorder, bleeding is generally proper, especially if the pulse is quick and the membrane under the eye-lid unusually red; and in this case a large quantity of blood should be taken off. If, when the blood has

coagulated, a coat of buff or size is found on the surface, it shows that the evacuation was necessary, and that it may be repeated with advantage if the symptoms do not abate. Mild diuretics should be given now and then, so as to keep up an increased discharge of urine; at the same time, the animal's strength should be supported by a moderate use of nourishing food. His drink should consist of oatmeal mixed with water, and he may be allowed to eat carrots, lucerne, vetches, or a small quantity of oats now and then. When there is considerable weakness, tonic medicines are proper, as Peruvian bark, cascarilla bark, with an aromatic, as cinnamon, caraway seeds, &c. Some practitioners give also the mineral tonics, such as salt of steel, white-vitriol, &c. Diuretics, however, are the essential remedies or sheet-anchor in all dropsical affections. When the swellings become so large as to be troublesome on account of their weight, it will be proper to scarify them, by which, in a short time, they will be considerably reduced. The best instrument for this purpose is the common horse lancet, which should be plunged, to the depth of nearly half an inch, into several places, choosing the most depending, or lowest parts of the swelling. Horses kept in low swampy land, or on moors, are also subject to a dangerous kind of dropsy, which in such districts is generally termed Moor-evil. I have been informed by an intelligent correspondent, a person of considerable experience in the complaint, that the following preparation has proved almost invariably an effectual remedy for this disorder, and that before this preparation was known, the disease very often ended fatally: he adds, "it comes the nearest to a specific of any medicine I ever knew; I never bleed, rowel, or scarify in dropsy." This receipt is an improvement on old Gervase Markham's for a 'Dropsie or Evil Habit of

the Body; but this improvement, or rather addition, (from two to four ounces of soap), is the most efficient ingredient, if not the only one in the formula. Take of strong ale, five quarts, (Markham directs a gallon), set it on the fire, and skim off the white froth which rises; then put into it a handful of wormwood with the stalks, and let them boil together until reduced almost to a quart, then add three ounces of treacle, one ounce and a half of long pepper and grains of paradise in fine powder, and from two to four ounces of Castile soap. The whole to be given at one dose, and the horse exercised immediately after till he sweats. I should have before observed, that whenever costiveness occurs in dropsy, laxative medicines should be given.

Dropsy of the Head. See *Brain*.

Dropsy of the Chest. This is a consequence of inflammation of the lungs; and when it happens, that important organ has generally been so far disorganized or injured, that there is not the least chance of the animal's recovery. In some instances it is less rapid in its progress than in others, and from an apparent abatement of the inflammatory symptoms and fever, the practitioner may be led to prognosticate a favourable termination of the disorder; but according to my experience, it almost always ends fatally. Diuretics and tonics, with a nourishing diet, are the remedies most likely to do good. Blistering the sides extensively may be worth a trial. Mr. Blaine recommends the operation of Tapping; that is, making an opening between two of the ribs, in such a situation as to allow the water to run off freely. I once tried this method, and drew off more than half a pail full of water; but it did no good, nor do I expect it ever will. The horse died a short time after, and the lungs were found in a very diseased state, particularly on the surface or *pleura*, which was covered

with flakes of coagulable lymph; the inner surface of the ribs and diaphragm, as well as the pericardium, were in the same state.

Dropsy of the Pericardium, or Heart-Bag. Under the head Bleeding, a case of this kind is noticed, the existence of which was not suspected: the groom who attended the horse had no suspicion of his being unwell, but brought him to be bled; merely because he had been accustomed to that evacuation at certain periods; at this time, however, it proved fatal.

Dropsy of the Belly, or Ascites. This disease is a consequence of peritonæal inflammation, (see *Peritonæum*), and is either acute or chronic. In the former, the inflamed state of the bowels is the only thing which is to be attended to, and if we succeed in subduing this, any water which may have been poured out in the abdomen will probably be absorbed again; but when some degree of increased action continues in the exhalant vessels, or if the absorbents have lost their power, there will be an accumulation of water in that cavity, constituting the disease termed Ascites. This kind of dropsy is sometimes connected with or dependent upon a chronic disease of the liver. Mr. Blaine says, "it is known by a tension of the abdomen, and the undulating feel when gently struck with one hand, the other remaining fixed. The urine is made in small quantities, the thirst is great, and the horse is short breathed." This description does not appear to me to be sufficiently clear: in all cases of ascites, the most prominent symptom, and that which first attracts notice, is the anasarcaous swelling of the sheath, belly, chest, or other parts, which is sometimes of a prodigious size, very hard, and if pressed with the finger, the impression will be found to remain for some time after. These external swellings, if scarified freely, will soon

be lessened considerably, as I have before described; but the more important disease will remain, until the proper internal medicines are given, the principal of which are diuretics; at the same time supporting the animal's strength with tonics and a nourishing diet. This kind of dropsy most commonly happens to horses that are kept in low swampy grounds, and are much exposed to cold rain and fogs; it can scarcely be doubted, therefore, that the cause of this disease is checked or suppressed perspiration; hence we see the propriety, or necessity indeed, of restoring this discharge, by rubbing the skin lustily and frequently, warm clothing, and exercise. As a diuretic, perhaps the following drench will be found effectual: Take of Castile soap, two ounces, dissolve in about a pint of good strong beer; then add of powdered cascarilla bark, two drams; powdered ginger, three drams; genuine oil of juniper, two drams, or if this cannot be procured, balsam of capivy, one ounce.—Mix for one dose. Gibson and Bartlett recommend purging medicines when the horse has recruited his strength a little; but I am satisfied, that the treatment above described will be found much more efficacious.

DUCT. A membranous tube or canal through which certain fluids are conveyed. Thus, the lachrymal duct conveys tears from the eyes to the nose; and the biliary duct, bile or gall from the liver to the bowels.

DUKE'S OINTMENT. This preparation consists of equal parts of balsam of sulphur and tallow. It has been recommended for bruises from the saddle, or to be rubbed on parts that are mangy; but is by no means an eligible application.

DUODENUM. The beginning of the small intestines, or that part of the canal which is nearest the stomach. See *Intestines*.

DURA MATER. A membrane or covering of the brain, adhering also to the inner surface of the skull.

DYSPEPSIA. In medical language, this term signifies difficulty of digestion and want of appetite.

DYSENTERY. I have never seen a disease which exactly corresponds with the dysentery of the human body: it is said, however, to be "not uncommon in the horse, and more frequent in cattle and sheep. It very commonly begins with some degree of fever, as a trembling, dryness of the mouth, loss of appetite, a great degree of weakness, drooping of the head and ears, sometimes a copious sweating, but more commonly dryness and heat of the skin; there is usually a heaving of the flanks, and the animal turns his head towards them as if griped; there are frequent stools, but these seldom consist of the natural excrement, but of a mucous slimy discharge, accompanied with a peculiar fatty substance like soft suet; there is evidently much distress during these evacuations, and sometimes the fundament appears excoriated: it is not uncommon to see blood pass with the stools, generally in streaks, but sometimes in such quantity as to tinge the whole discharge of a red colour; and in the latter stage of the disease there generally appear membranous filmy substances, which have been compared to soaked leather. The pulse towards the beginning of the disease is hard and full; but as the disease goes on, it becomes quick, small, and sometimes irregular. The animal is very stiff and averse to motion; and, if the disease continues long, there usually comes on a swelling of the legs. This disease does not appear so dangerous among the inferior animals of this climate as in warmer countries; but it sometimes proves fatal, or terminates in a weakness of the bowels and scouring, that are not easily removed. It is necessary to distinguish this complaint from the common purging or scouring, with

which it is very generally confounded. It must therefore be observed, that in scouring there is no fever, whereas this is common in dysentery; that the discharge in scouring, though thin, has almost always the appearance of excrement, is not bloody, and is scarcely ever mixed with fatty matter. Dysentery is more common in hot weather and in hot seasons than at other times; but is very commonly produced by the sudden application of cold, especially to the legs and belly, when the body is over-heated and fatigued by exercise: hence swimming in autumn, drinking largely of cold water when in a profuse sweat, or other sudden changes from heat to cold, have commonly produced it. It is said to be brought on by riding a horse very hard in hot weather. As it seems certain that dysentery is of an inflammatory nature, it is proper to begin the cure by bleeding." If the pulse is quick, and the blood when coagulated has much buff or size upon it, it may be proper to repeat the operation after a few hours. Some laxative medicine should then be given, and an opening clyster thrown up. The following laxative will be found to answer the purpose:

Powdered aloes, from two to three drams.

Carbonate of potash, two drams.

Warm water, eight ounces.—Mix, and add of castor oil, twelve ounces, for one dose.

When purging has taken place, the horse should be well supplied with gruel made of wheat-flour, and if he refuse to drink it, he should be drenched. The body should be kept warm and well rubbed, and the legs bandaged. When the disease has been subdued, the horse's strength is to be recruited by tonic medicines and a nourishing diet. When the disease continues after the bowels have been emptied, a ball composed of

Opium, a dram,
 Ipecacuanha, half an ounce,

has been recommended; but this, I believe, will rarely be found necessary. It is said that cattle are subject to a similar disease, only that in them there is not perhaps so much mucus or slime discharged with the dung; and that it is not uncommon in sheep; in the latter animal it is commonly named Brackshaw or Breakshaw, and in cattle Fardle-bound. In these animals a laxative of Epsom salts, gruel, and castor oil, should be first given, particularly to cattle; but in sheep, a practical farmer, Mr. Lock, has usually given warm milk; he proposes, however, to try, in addition to this, nitre, in half-dram doses, with chalk, or some other absorbent powder, and twenty or thirty drops of laudanum, twice or thrice a day, with frequent clysters of warm milk and water. We may infer, I presume, from his adopting this new plan, that the old one did not prove successful. According to Mr. Gillespie (quoted by Mr. Findlater), the disorder is often produced by over-heating, when the sheep are hunted by dogs in folding them, &c. He thinks the disease infectious, and recommends tarring as the best preventive. Mr. Blaine, as well as the author from whom great part of this article has been taken, considers Dysentery and Molten-grease to be the same disorder; but according to my experience, Molten-grease is very unlike the Dysentery of the human body, nor does it altogether resemble the disease above-described. See *Molten-grease* and *Costiveness*.

DYSURIA. A difficulty in voiding urine. See *Urine*, *Retention of*.

E.

ECCHYMOsis. A swelling caused by blood in the cellular membrane, as in the rupture of a small superficial vein by a blow; it happens also sometimes in bleeding, by the blood getting into the cellular membrane between the skin and the vein. It is seldom of any importance, unless the quantity of blood is considerable. It may then cause suppuration: but when the matter has been evacuated, it will soon get well.

EFFERVESCENCE. A motion somewhat resembling boiling, which takes place in a body by the sudden extrication of its fixed air, as in mixing lemon juice and salt of tartar together.

EFFLORESCENCE. An eruption on the skin attended with redness, as in measles.

ELATERIUM, Wild Cucumber. The inspissated juice is employed in human medicine as a drastic purgative in very small doses. I have given two drams to a horse without producing any sensible effect.

ELDER. The inner bark of elder is prescribed by Gibson with rue, chamomile, &c. for dropsy, infused in old beer or wine; the quantity ordered for two doses is a *handful*! From the flowers a distilled water and an ointment are made, which do not appear to differ in their medicinal qualities from distilled water, and common grease, suet, or lard. There are also kept in the shops an oil and an ointment of elder leaves; these are nothing more than common oil and lard, coloured either with verdigris or the leaves of any green vegetable.

ELECAMPANE. The root of this vegetable is often used by farriers; it does not appear, however, to

possess much medicinal power. Its virtues are said to be diaphoretic, diuretic, and stomachic; it is also said to promote expectoration in coughs and asthma.

ELEMI. A resinous gum, sometimes employed as an ingredient in digestive ointments.

ELIXIR. A compound tincture.

EMBROCATION. A fluid application, generally used for strains, bruises, or indolent swellings.

EMETIC TARTAR or **TARTARIZED ANTIMONY.** This preparation is made from the oxyd of antimony and cream of tartar; it is thought a useful medicine in colds and fevers: the dose about two drams. See *Antimony*.

EMOLLIENTS. Medicines which relax and soften the parts to which they are applied, thereby removing or diminishing inflammation and pain. When employed internally, they are supposed to dilute or sheathe any acrimonious matter that may be irritating the bowels or other sensible parts. Warm water is the most efficient medicine of this class, whether used inwardly or externally; it is usually joined however with mucilage and oil, and these perhaps render it more efficacious. Emollient vegetables are those which contain mucilage or oil, and sometimes both: thus marshmallows contain a great deal of mucilage, which may be extracted by boiling water; and both oil and mucilage are abundant in linseed or flax seed.

EMPHYSEMA. A swelling caused by air in the cellular membrane under the skin, and distinguished by the crackling kind of noise that is heard when the hand is passed over, or rather pressed on the swelling. Emphysema is commonly dependent on some other disease, as in the Black Leg or Quarter Evil of cattle.

EMPYEMA. A collection of purulent matter in the chest.

EMUNCTORY. A term in anatomy, applied to any passage by which superfluous matter is evacuated.

ENCYSTED. A term applied to tumours, the contents of which are included in a sac or cyst.

ENDEMIC. A disease is so named which is peculiar to a certain class of persons or country.

ENEMA. A clyster.

EPIDEMIC. A disease is so termed that attacks many persons or animals at the same season and in the same place. See *Influenza* and *Murrain*.

EPIDERMIS. See *Cuticle*.

EPIDIDYMIS. A hard oblong substance attached to the testicle and spermatic cord. In castration, this part as well as the testicle should be cut off.

EPIGLOTTIS. An elastic cartilage, which covers the larynx or upper part of the windpipe, which it completely covers in the act of swallowing; thereby preventing any of it from falling into the windpipe.

EPILEPSY. Falling sickness or fits.—*Symptoms.* The horse reels about and falls down; sometimes he rears up and suddenly falls. The muscles of the eye act irregularly or are affected with spasm, so that the eye is shockingly distorted and fixed during the fit. Sometimes he lies in a state of insensibility for several hours; the pulse continues to beat, and there is often a disturbed kind of breathing. Sometimes there is also a violent motion of the legs. The duration of the fit varies; sometimes the horse gets up again in a short time, at another it continues several hours.—*Treatment.* Bleed plentifully, and if the fit continues, give the following drench:

Take of Foetid spirit of ammonia, one ounce.

Compound spirit of lavender, half an ounce.

Water, about twelve ounces.—Mix, for one dose.

To prevent a return of the fit, give a mild purgative. I examined the brain of a horse that had had several

attacks of this disease; they came on indeed whenever he was put into brisk motion, but lasted only a few minutes. There were about six ounces of water in its ventricles or cavities.

EPISPASTICS. Blisters.

ERRHINES. Powders blown up the nostrils to cause a discharge from them.

ERYSIPELAS. A disease which often affects the skin of the human body, and is sometimes attended with fever or even delirium. Horses and cattle do not appear to be subject to the disorder.

ESSENTIAL OILS are such as are obtained from plants, seeds, &c. by distillation.

ETHER. A very light, volatile, and strongly stimulating fluid. It is considered as a powerful antispasmodic, and has been recommended in obstinate cases of flatulent colic and locked jaw. The dose is from half an ounce to an ounce, which must be mixed with not less than twelve ounces or a pint of water, and given expeditiously. In one instance two ounces of ether produced a fatal inflammation of the stomach. This may have been caused by one or both of the following circumstances:—The ether perhaps was given with too small a quantity of water, or the stomach was inflamed at the time it was given, though the disease was supposed to be flatulent colic.

ETHIOPS MINERAL. A very mild, probably inactive, mercurial preparation, made by rubbing together equal weights of quicksilver and sulphur, until the former disappears, and the mixture becomes nearly black. It has been much used by farriers to destroy worms, and as an alterative in diseases of the skin; but at this time it is very seldom employed. The dose about one ounce.

ETHIOPS, ANTIMONIAL. Antimonial Ethiops is made by mixing equal parts of Ethiops mineral and levigated antimony together. It has been recom-

mended as an alterative; the dose about one ounce and a half or two ounces.

EXCRESCENCE. Any preternatural formation on any part of the body, as warts, wens, splents, spavins, &c.

EXERCISE. It has been asserted by Mr. Clark, an author of some eminence, that “a much greater number of horses that are high fed, and stand much at rest in close warm stables, die of diseases which are brought on them from the want of regular exercise, especially in great towns, than from any other class of diseases to which they are liable.” I perfectly agree with Mr. Clark in this opinion; and feel no hesitation in adding, that almost all the diseases of horses may be justly attributed to improper treatment or management; either in regard to feeding, exercise, state of the stable, or shoeing and general treatment of the feet. Though regular exercise is so salutary and even necessary in preserving the health of horses, they should not be suddenly put to such active exertions as they have not been accustomed to; for all sudden changes, whether from idleness to active exercises, or from these exercises to idleness, produce considerable changes in the system, and render both the solids and the fluids liable to disease. When a horse is gradually brought to that degree of exertion or labour in which he is to be employed, it becomes easy to him, and does not produce fatigue or difficulty of breathing; and when he has arrived at this state or habit of body, he is said to be in good wind and condition. But one great source of disease in horses is the improper treatment of them after they have been heated by exercise or hard labour. For though they come in covered with sweat, they are often exposed to the cold air uncovered, while their legs and thighs are washed with cold water; and not unfrequently they are allowed to drink freely of cold

water while in this heated state. Hence arise inflammation of the lungs, bowels, or other internal parts; colds, chills, and a long catalogue of disorders, which it is needless to enumerate.

The time and manner of regulating a horse's exercise deserve attention. Thus it would be imprudent to make a horse exert himself too suddenly immediately after he is fed and watered. It is likewise improper to exercise horses in the rain, or when they are unable to bear it, either from former fatigue, sickness, or lameness. The greatest caution is necessary in exercising horses that are very fat and unaccustomed to labour. If ridden hard in this state, internal inflammation, fever, chill, or molten grease is likely to be the consequence. Horses in this state should have only walking exercise for a week or two, they should also take some mild purgatives or diuretics, and be fed rather sparingly. After this their exercise should be gradually increased until the wind and condition are adequate to the work for which they are wanted. This subject has been more fully discussed in the 1st vol. of *Veterinary Medicine*, in the chapter on Feeding, Exercise, and Grooming, and in the preceding chapters on the Ventilation of Stables, and Condition.

EXOSTOSIS. A bony excrescence, of which the splent is an example.

EXPECTORANTS. Medicines that promote the discharge of mucus from the lungs by coughing, thereby curing or alleviating cough and imperfect wind or asthma. The principal medicines of this class are—squill, gum ammoniacum, galbanum, assafoetida, balsam of Tolu and Peru, balsam of sulphur, &c.

EXPECTORATION. The act of discharging mucus from the lungs.

EXTRACT OF LEAD, or GOULARD'S EXTRACT.
See Lead.

EXTRAVASATION. The escape of blood or other fluids from their proper vessels.

EYE. The reader would derive no advantage from an elaborate anatomical description of the eye, even if illustrated by plates: such knowledge can only be conveyed by exhibiting the eye itself, dissecting it minutely, and explaining the structure and functions of its various parts. I shall therefore give only a brief explanation of the subject, and that merely with a view to render more intelligible my description of the principal diseases to which this delicate organ is liable. The diseases of the eye appear to me to admit of three divisions: the first comprehending inflammation of the various parts of which the organ is formed; the second, the different degrees of opacity which take place in parts which are naturally transparent; and the third, the diminution or total loss of power in the retina and optic nerve. But previous to a consideration of these diseases, I will proceed to the anatomical description above alluded to. The parts which compose the eye are divided into external and internal. The external parts are 1st, The eye-lashes or *cilia*, which in the horse can scarcely be reckoned more than one, there being very few hairs in the under eye-lid. 2. The eye-lids or *palpebræ*, upper and under; where they join outwardly it is termed the External Canthus, and inwardly toward the nose the Internal Canthus: they cover and defend the eyes. The cartilaginous margin or rim of the eye-lid, from which the eye-lashes proceed, is named Tarsus. In the tarsus and internal surface of the eye-lid there are small glands, which form an oily mucilaginous fluid, to prevent the attrition of the eye and its lids, and facilitate their motions. 3. The lachrymal gland, which is placed on the upper part of the eye-lid toward the external canthus. The tears are formed by this gland, and conveyed to the inner surface of

the upper eye-lid by several minute ducts or canals, named Lachrymal Ducts. 4. The lachrymal caruncle, a small body of a glandular appearance in the inner corner of the eye: on each side of the caruncle there are small orifices, which are called Puncta Lachrymalia; these are the mouths or openings of two small canals, which joining together, form a membranous tube, which, passing through a small opening in the bone, extends to the lower part of the nostril, where its termination may be distinctly seen in the horse. The tears formed by the lachrymal gland are diffused over the eye by the motion of the eye-lids, and serve to preserve its transparency; to wash off dust or other extraneous matter, and to prevent any ill consequences from friction. As the lachrymal gland is constantly forming tears, it must be obvious that some contrivance is necessary for conveying them off, and prevent their flowing over the cheek; this purpose is answered by the puncta lachrymalia, and the tubes forming by their junction the lachrymal duct; through this canal the tears are conveyed to the nostril. But when the eye is inflamed, or any irritating matter is applied to it, the tears are formed too abundantly to be carried off in this way, and then they flow over the cheek. In the human eye the puncta lachrymalia terminate in a small sac, from which the lachrymal duct proceeds; this is not the case in the horse. 5. In the inner corner of the horse's eye is placed a cartilaginous body, commonly termed the Haw, no resemblance to which is to be found in the human eye. The horse has the power, by means of the muscles of the eye, to bring the haw completely over its surface; it serves therefore as a second eye-lid, and effectually wipes off any dust, hay, seeds, or other matter which may have fallen upon the eye. 6. The conjunctive membrane, or *tunica conjunctiva*, which lines the inner surface of

the eye-lids, and covers the white part of the globe of the eye. This membrane has numerous blood-vessels, which are conspicuous when it is inflamed; sometimes that part of the conjunctiva, which lines the eye-lids, appears throughout of a red colour; this is generally the case in inflammatory affections of the lungs or other internal parts. The bulb or globe of the eye is composed of four coats and three humours. 1. The transparent cornea, which forms the front part of the eye, and in the horse forms a larger part of the globe than in the human subject, which is the cause perhaps of his seeing better at night than man. On removing the transparent cornea, a fluid escapes, which is named the aqueous humour, and the iris appears. The iris is a muscular curtain, having a hole in the centre which is termed the pupil. The iris divides the fore part of the eye into two parts, named chambers, which are occupied by the aqueous humour. In the human eye, the pupil, or, as it is vulgarly named, the apple of the eye, appears of a black colour, and is of a circular form; but in the horse it is of a dark blueish cast, and of an oval, or rather of an oblong form; the long diameter being in the horizontal direction. In some animals, as the cat, the long diameter of the pupil is in a perpendicular direction. It is the aqueous humour that gives convexity to the transparent cornea, and enables the iris, which floats in it, to perform its functions. The iris regulates the quantity of light that is required to pass through the pupil; for this purpose it is composed of two sets of muscular fibres: by means of one, the pupil is enlarged, and by the other it is diminished: thus if the pupil is first examined in the stable where there is but a moderate light, and immediately after in the sunshine, it will be found wonderfully altered; becoming so small in a strong light as to be nearly closed. There is a peculiarity in the horse's iris, which is sometimes mis-

taken for a disease; that is, in the upper part of the pupil, suspended from the rim of the iris, there are small black substances, the use of which has not hitherto been ascertained. On removing the iris, the second humour or chrySTALLINE lens appears; this is retained in its situation by a transparent membrane, named its capsule, between which and the lens is a minute quantity of fluid. The chrySTALLINE lens is of a double convex form, and in health perfectly transparent. Its outer part is rather soft, but it is found to become gradually harder towards the centre. The use of the lens is to afford, by the refraction of light, a focal point on the retina. To produce perfect vision the focal point must vary; this change is readily accomplished by the motions of the iris. The third humour of the eye is the vitreous; this humour is not contained in one general sac, but in numerous minute and perfectly transparent cells. This humour resembles pure water. The vitreous humour serves to produce a small degree of refraction in the rays of light, and occupies and distends all the posterior part of the globe of the eye. Of the four coats of the eye only the transparent cornea has been described. The next to this is the sclerotic coat, or white of the eye, a strong thick membrane, which extends from the transparent cornea to the optic nerve. The next coat to the sclerotic is the choroid. This is a delicate and very vascular membrane: in the human eye it appears of a black colour, from a black mucous substance called *nigrum pigmentum*, which covers it; and it is this which causes the pupil of the human eye to appear black: but the choroid coat of the horse's eye is variegated in colour; in some parts black, in others blueish and beautifully green. From this the pupil of the horse's eye appears of a dark blueish colour. The third coat is the retina. This is a delicate expansion of the optic nerve over the choroid coat, which it ac-

companies to the margin of the chrystalline lens, and there terminates. The use of the retina is to receive certain impressions made by the light reflected from objects, so as to produce in the mind an idea of their figure and colour; the optic nerve being the medium of communication between the retina and the brain. From the above view of the mechanism of the eye, it will readily appear, that many circumstances may occur to render vision imperfect, or to destroy it altogether. If the transparent cornea, for example, becomes opaque in consequence of inflammation, light could not pass through it, and the animal would be blind, however perfect the other parts of the eye might be. There are many shades however between perfect transparency and absolute opacity, producing a proportionate degree of imperfection in vision. The cornea may be either too convex or too flat; in the former case, causing the animal to be near sighted; in the latter, producing an indistinctness in vision with respect to objects that are near. The iris may, in consequence of inflammation, become fixed, or lose its power of motion; in which case, the pupil would be always of the same size, and the animal would not have the power of adapting it to the various distances of objects; or, as it sometimes happens, the pupil may become quite closed, by which light would be perfectly excluded from the retina. Supposing the cornea and iris to be healthy, the chrystalline lens or its capsule may become opaque, and thereby cause total blindness. But in this part, as in the cornea, we meet with different degrees of opacity; sometimes it is very slight, the pupil appearing of a lighter colour, and unusually large: in this state, the pupil is said to look dull or muddy, which causes the horse to start; but when the opacity is complete, it constitutes the disease termed Cataract. It often happens in horses, that one or more whitish spots are formed

either in the lens or its capsule, the other parts remaining transparent. If these opaque spots are small, and do not occupy the centre of the pupil, they may not materially interrupt or impede vision. The vitreous humour does not often become opaque, but it is sometimes disorganized; that is, the cells are broken down, and it is rendered rather turbid, by mixing with the black pigment of the choroid coat; but this I believe seldom happens, except when there is a complete cataract, and then it is commonly found in this state. From this circumstance, and from what I have before observed of the use of the chrystalline lens, it will readily be seen, that the operation either of couching or extracting the cataract, or opaque lens, must be useless in the horse; for if the vitreous humour remain perfect, the grand refractor of the eye is lost; and though light can pass to the retina, vision would be so confused and imperfect, as to render the horse more dangerous to ride than one that is totally blind. In the human eye, the loss of the chrystalline lens may be supplied in some measure by glasses, and a useful degree of vision is often restored, either by couching or by extracting the cataract. If every humour of the eye were transparent, the cornea of a proper degree of convexity, and the iris perfectly healthy; still, if the retina had lost its power, the animal would be blind, with scarcely any prospect of recovery. This defect in the retina constitutes the disease named *Gutta Serena*, or *Amaurosis*. This disease is known by the pupil being unusually open or large, and by its continuing so when the eye is exposed to a strong light. The iris however does not lose its power totally, particularly in the human eye; but it appears to be influenced more by an effort of the animal than by the stimulus of light. I shall now proceed to a consideration of those diseases of the eye, which admit either of cure or

palliation. Young horses, generally when about five years old, are peculiarly liable to inflammation of the eye, which in medical language is named Ophthalmia; such as are got by a blind stallion, or bred from a blind mare, are said to be more liable to it than others. That this hereditary tendency to ophthalmia often occurs, cannot be doubted; and it seems equally certain, that the eyes of some young horses are naturally weaker and more susceptible of disease than those of others, independent of such hereditary tendency. I am inclined to think, that in gray horses, and those of the black cart breed, we more frequently meet with bad eyes than in horses of other colours. But all young horses, of whatever breed or colour, if pent up in hot close stables, fed high, and not sufficiently exercised, are liable to inflammation of the eyes; and when once this disease has occurred, there is great danger of its terminating, sooner or later, either in partial or total blindness. On the first attack of this disease, the inflammation is generally confined to the conjunctive membrane. The eye-lids are partly closed, the tears are formed so abundantly as to flow over the cheek, and the haw often becomes more conspicuous, covering some part of the cornea. Sometimes the inflammation comes on in a more violent degree, extending to the cornea and iris. Not unfrequently we observe lymph or matter in the lower part of the anterior chamber of the eye, that is, under the cornea, which has been effused by the vessels of the iris; and sometimes even the cornea becomes opaque, and of an obscure red colour, somewhat resembling blood. It often happens, that one eye only is at first attacked; and when this is getting better, the other is often suddenly affected. Sometimes the eyes appear to get quite well, and continue so for several weeks, but in general they are unexpectedly and suddenly affected again. The disorder

often continues in this fluctuating state a considerable time, before the chrystalline becomes materially affected: in some instances however, the cataract has formed rather suddenly. It generally happens, that when the cataract has taken place, the inflammation of the conjunctiva and other parts ceases, and does not again return; and if a complete cataract forms in one eye only, the other usually becomes strong and healthy, and is seldom afterwards attacked with inflammation, except from blows or other accidents. From the frequent occurrence of this circumstance, farriers have been led sometimes to destroy one eye, with a view to restore and secure the other. This practice Mr. Feron and some other Veterinary writers have condemned as cruel, which censure it certainly merits, if not productive of the expected advantage.—I have tried it once only, and in that case it succeeded; that is, the last time I saw the horse, which was more than six months after the operation had been performed, one eye appeared perfectly healthy, and in the other there was a complete cataract. I do not know in what manner farriers “put out the eye,” as it is termed, but suppose they thrust a knife into the cornea, and make an opening through which all the humours of the eye are forced out. The method I pursued was different; it gave the animal very little pain, and left only a small blemish. Having steadied the eye with a suitable instrument, and the under eye-lid being kept down by the finger of an assistant, the common couching needle was passed through the sclerotic coat, about the eighth of an inch from the edge of the transparent cornea, and continued forward until it was seen in the pupil; when in this situation, it must of course be in the substance of the chrystalline lens: after moving the point of the needle gently upward, downward, and backward, it was withdrawn. Nothing was afterwards

applied to the eye. I have several times performed a similar operation on horses that have had complete cataracts; not from an expectation of doing any good, but merely to show how little pain it occasioned, and that it was not followed by inflammation or any ill consequence. One object I am inclined to think may be accomplished by this operation, if performed when the cataract is recent and not accompanied with disorganization of the vitreous humour: that is, it may restore such a degree of vision to farm horses, or such as are not of sufficient value to be kept in a stable, as will enable them to avoid the danger of falling into pits or ditches when at grass. But to effect this, it is necessary to carry the point of the needle through the pupil, and of course through the fore-part of the capsule of the lens, so that it may be seen in the anterior chamber; in this situation it is to be moved gently, (taking care not to touch the iris,) so as to make a small opening in the capsule; some of the opaque lens will then, perhaps, be gradually absorbed, so as to allow a small quantity of light to pass to the retina. I have before observed, that we often meet with cases where there is one or more small whitish or opaque specks in the pupil, the other parts remaining transparent; and that when such specks are not large, and do not occupy the centre of the pupil, they do not materially interrupt vision. I have now to observe in addition to this, that I have many times remarked, when such specks have formed, the ophthalmic inflammation has been permanently removed, as it usually is by the formation of a complete cataract; but this does not so generally follow in the former as in the latter case. It has been said, that these specks generally increase gradually, until the whole of the lens becomes opaque, or a complete cataract is formed; but I have not seen this happen in any one instance, though it is a subject I have par-

ticularly attended to. I have often examined eyes with such specks from time to time for several years, but do not recollect a single case in which they appeared to increase: but it must be recollected, that I mean those cases only, in which the formation of the specks has been followed by a cessation of the ophthalmia. The difficulty that has been generally experienced, perhaps we may venture to say, the impossibility we often experience, of effecting a radical cure of ophthalmia in horses, or rather of preventing it from terminating in the partial or total loss of sight, has led many practitioners to conclude, that it is a specific kind of inflammation, peculiar to the horse's eye. According to Mr. Feron, "this disease may, in fact, be considered as a gouty inflammation of the eye, peculiar to the horse; being a periodical disease, and having the same appearance and affections in the horse, as the gout in the human subject." Mr. Blaine says, "In the human subject, this complaint generally attacks both eyes at the same time; but in the horse one only is sometimes affected, and that not unfrequently: but it seldom remains permanently fixed to one eye, but shifts to the other, leaving the original nearly well; this has induced Mr. Coleman to consider it as a *specific gouty affection*." Mr. Richard Lawrence in his "Inquiry into the Structure and Economy of the Horse," seems to view the subject in a different light. He observes, "Inflammatory attacks on the eye of the horse, eventually producing blindness, are so general, as almost to sanction a belief, that he is naturally more subject to this infirmity than any other animal. Such a supposition however would tend more to arraign the wisdom of Providence, than to throw any light on the subject. A difference in the perfection of the eye, as well as of other parts of the body, certainly prevails among different horses, but not to such a degree as to occasion blindness, pro-

vided the animal remained in a state of nature. Unnatural confinement in hot and dark stables, the constant costiveness produced by dry food, and more especially a general derangement of the system, brought on by violent and excessive exertions, are undoubtedly the primary causes of diseased eyes." I perfectly agree with Mr. Lawrence, but would add to the causes he has enumerated over-feeding without sufficient exercise, and standing still in cold wind or rain when the animal has been heated, and is sweating from violent exercise; also plunging him into a river when sweating and exhausted by exertion, or tying him up at the stable door while his legs and thighs are washed with cold water. I do not consider the inflammation of the horse's eye, or the ophthalmia, to be of a specific or peculiar nature, nor does it appear to me to resemble gouty inflammation. If we consider the unnatural state in which horses are kept, and how frequently the evils which necessarily attend domestication, are aggravated and increased by neglect, cruelty, and ill-management, we need not be surprised that so delicate an organ as the eye should so frequently suffer. When a horse is attacked with ophthalmia, and particularly if the inflammation is considerable, the vessels of the eye will be weakened in a certain degree; and though the disease may be in a short time removed by an immediate application of proper remedies, yet the eye will be more liable to ophthalmia than it was before the attack. But it often happens, that suitable remedies are not so seasonably applied; and as soon as the eye gets better, the horse is generally again exposed to the very same causes, by which the disease was originally produced. There appears to be no difficulty therefore in accounting for the frequent occurrence of ophthalmia in the horse, or for its so often producing blindness. It must be obvious, from what has been said on this subject, that

it is of the utmost importance, in the first place, to adopt that system of management with respect to feeding, exercise, grooming, ventilation, &c., which is most likely to prevent ophthalmia; and to have immediate recourse to the most efficacious mode of treatment: for it should be recollected, that it is from this primary inflammation, that almost all the other diseases of the eye proceed. Authors have not differed very materially as to the treatment of ophthalmia. Mr. Richard Lawrence advises "two or three quarts of blood to be taken, the bowels to be kept in a laxative state by giving about four drams of aloes night and morning till they operate:" the horse to be fed with bran mashes, and the same precautions attended to as are generally observed in physicking. He thinks the best lotion, that can be applied, is a mixture of one fourth vinegar and three fourths water, to be used with a clean sponge and light hand very frequently. He advises also a rowel to be placed under the jaw, and a blister applied to the cheeks; together with regular exercise, just sufficient to produce a moisture on the skin. Mr. Blaine says, he has "very generally succeeded in a temporary removal of the attack by local and general bleeding, by blisters to different parts of the head, and other means used against inflammation; and when the inflammation has been less active, by the introduction of laudanum, of calomel, and of other substances within the eyelids; aided by mercurial frictions, &c." He observes also, that "unless a horse is very plethoric and fat, the general bleeding should not be attempted more than once; but that local bleeding may be persisted in as long as the inflammation continues active;" this he advises to be done by dividing the vessels of the conjunctiva with a lancet, or with a pair of very fine scissors. He thinks leeches may be applied with propriety. Considerable benefit, he says, has some-

times followed the use of setons, placed as near the eye as possible; and in some instances they have been passed through the conjunctive membrane, that is, just under the transparent part in the white of the eye: a rowel may likewise be put under the throat. When the eye is extremely irritable, he recommends a cold poultice mixed with a weak solution of lead; and when there is but little irritability, he thinks stimulating lotions may be used with advantage; as solutions of white vitriol or alum, tincture of opium, diluted brandy, &c. For the purpose of relaxing the skin and promoting perspiration, he advises warm clothing to be used, and a ball night and morning, composed of

Tartarized antimony, one dram.

White antimonial powder, one dram.

Nitre, six drams :—to be formed into a ball with lard.

He recommends also ventilating the stable, and the removal of every source of noisome effluvia. Mr. Denny also advises the application of a cold poultice mixed with lead-water (perhaps a weak solution of acetate of lead, or Goulard's extract diluted with water) and taking off four or five pints of blood. He then directs a purgative to be given, composed of one ounce of aloes and two drams of ginger; with a rowel under the jaw, low diet, and, after the operation of the purgative, a powder, consisting of six drams of nitre, half an ounce of aniseeds, and one scruple of antimonial powder. Mr. Feron seems to consider the disease incurable: for he says, "If the animal is bled, purged, &c., the eye soon becomes clear, but, at the end of a few weeks, the other eye becomes inflamed; this also gets clear, and about the same period afterwards, the eye that was originally inflamed, now again becomes affected, and so on periodically, until the patient is totally blind in

one of them." After noticing some unsuccessful experiments made at the Veterinary College, he observes, that "the treatment is confined entirely to bleeding, purging, and diuretics; fomentations of warm water, and plenty of moderate and continual exercise, so as to increase the perspiration." My experience in this complaint has led me to consider bleeding, to the extent of four or five quarts, as the first and most essential remedy; and, in doing this, I feel no dread of producing debility, a circumstance of which Mr. Blaine seems so apprehensive. I do not approve of scarifying the conjunctiva, having generally found, that the inflammation is rather increased than diminished by it. Fomentations of warm water, when the eye is much inflamed, have generally afforded relief. I have several times seen a seton inserted in the conjunctiva of the upper eye-lid tried, but it only served to increase the inflammation, and give the animal a great deal of unnecessary pain. Mr. Coleman, I believe, first adopted this plan, but it was very soon given up. A mild purgative, on the first attack of the complaint, I consider useful; but after that, mild diuretics appear to be more beneficial. The best method perhaps of exhibiting them is in small and repeated doses, so as to keep up a moderately increased action in the kidneys. I have generally found a mixture of powdered resin and nitre, half an ounce of each, answer this purpose completely, if given at first twice a day, and afterward only once, or so as to make the horse stale more than usual, but not so much as to cause weakness or endanger the kidneys. Should the horse refuse to take the powder in his bran-mash, (no corn should be allowed,) it may be formed into a ball with a little flour and syrup. Three hours' walking exercise daily will be found useful; a cold easterly wind, dust, and rain, should be avoided. A light shade of

silk may be so adapted to the head as to keep off the direct rays of the sun during the time of exercise. A seton, placed immediately under the eye, has often done good, particularly when the conjunctiva is much inflamed and swollen. I have found the seton more speedily effectual when the tape is smeared with blistering ointment; but it should be that part of it only which is under the skin. Blistering the cheeks would be useful, were it not that the horse is apt to rub the part against the stall or manger: I have several times known the blister get into the eye in this way, and aggravate the inflammation considerably. When the inflammation has abated, the following lotion may be substituted for the fomentations of warm water:

Sulphate of zinc, two drams;

Acetate of lead, three drams;

Water, one pint and a half.

Powder the first two ingredients, and put them into a bottle with the water: shake the bottle for a short time, and then filter through blotting-paper. This lotion should be perfectly transparent, and applied to the eye several times a day by means of a clean sponge. If the eye continues weak and the sight imperfect after this lotion has been used four or five days, a little brandy may be mixed with it; about four parts of the lotion to one of brandy: this may be introduced under the eye-lids, by separating them gently with the finger and thumb, and squeezing a small bit of clean sponge, that has been dipped in the mixture, close to the eye. When the inflammation has subsided, a slight degree of opacity sometimes remains in the cornea, which is generally removed by the above mixture; but it may be found necessary in some cases to make it a little stronger of the brandy. The same mixture may be used when the pupil is unusually open, and rather of a lighter blue

colour than we commonly find it, or, as it is often termed, muddy or cloudy. When the pupil is contracted, or very small, even in the stable or a moderate light, and appears to be uniformly the same in different degrees of light, or if it appears irregular in its form, a small quantity of the extract of belladonna may be introduced under the eye-lids. If this does not enlarge the pupil in the course of three or four hours, it should be repeated; but when this effect has been produced, no more should be applied until the pupil again contracts. In *Gutta Serena*, or a loss of power in the retina or optic nerve, there is scarcely any chance of a cure. Bleeding, purging, and the application of stimulating powders to the nostrils have been recommended. In blows or other external injuries of the eyes, violent inflammation often takes place; and there is generally a complete opacity of the cornea, and a high degree of inflammation in the conjunctiva. In such cases, by bleeding freely, giving a mild purgative, and fomenting the eye frequently with water, at about blood heat, or with the lotion before prescribed, made warm and diluted with an equal quantity of water, the inflammation will gradually subside; and when that point has been accomplished, the undiluted lotion with brandy may be used should any opacity remain. I have sometimes found it necessary to use stronger stimulants in opacity of the cornea, as common salt in fine powder, or even finely powdered glass mixed with honey and placed under the eye-lids. I thought it necessary to enter thus fully into a consideration of the diseases of the horse's eye, as it is a subject of importance; and, in concluding, I beg to remind the reader, that it is much easier to prevent the disease by a proper system of stable management, than to cure it; and if it does occur, the only chance of curing it permanently is by an early application of

proper remedies. Diseases of the eyes of cattle almost always are caused by external injuries, and are to be treated in the manner I have just described.

F.

PAINTING. A horse may faint and fall down from an excessive loss of blood. The first thing to be done is to secure the bleeding-vessel; and then he generally recovers in a short time, but if the faintness continue, a little warm beer may be given, or a small quantity of brandy in warm gruel.

FALLING SICKNESS. See *Epilepsy*.

FALLING DOWN OF THE CALF BED. Inversion of the womb. This accident occurs sometimes immediately after the extraction of the calf, particularly in difficult labours, or when much force has been used in the delivery of the animal. It may also happen from the cleansing remaining in the womb after delivery, which generally causes the cow to lie down and strain. This accident is more likely to happen when the floor of the cow-house is lower behind than before; when this is the case, the animal should be removed to another place, or the floor so raised, that the cow's hind parts may be rather higher than the fore parts. If any dust or bits of straw are observed about the womb, they should be carefully removed; and if the placenta or cleansing still adheres, it must be gently separated, before any attempt is made to put back the womb. A linen cloth is to be put under the womb, which, being held by two assistants, the cow should be made to rise, that being the most favourable position. The operator is then to grasp the mouth of the womb with both hands, which will enable him by gently pushing forward, to force that part into the body of the cow; when so

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returned, one hand is to be immediately withdrawn, while the other remains to prevent the part from falling down again. The hand at liberty is then to grasp another portion of the womb, which is to be forced into the body like the former, and retained with one hand; this is to be repeated until the whole of the calf-bed is put back. In grasping these different portions of the womb, it is to be particularly observed, that it must be done by its upper surface, or that lying next the back of the cow: for, if grasped at the under part, it would be impossible to return it, and there would be danger of wounding some large blood-vessel. During the operation, the assistants must be careful to support the womb, and on no account suffer it to hang down. If the cow cannot be made to stand during the operation, the hind parts should be raised by placing some trusses of straw under them. When the operation is finished, the hand is to be thrust gently up to the bottom of the womb, and kept there until the parts have regained their natural situation, which will be known by moving about the hand. When the womb has been properly returned, it seldom falls down again. Some farriers, however, put two or three stitches in the shape as a preventive. Mr. Clater recommends for this purpose, the passing a piece of wire through the "lips of the womb." In old cows, whose parts have been much weakened or relaxed, and where the accident has occurred several times, some expedient of this kind may perhaps be necessary. It would be proper, however, to try first if it could be effected by means of a pessary. (See *Pessary*.) After the operation, Mr. Clater, *very considerably*, for he is a druggist, directs an expensive drench to be given, which, in my opinion, is much more likely to do harm than good: *sed utilis est sibi*. Sometimes the vagina falls or becomes inverted, but it is easily

replaced; and farriers usually put two or three stitches in the shape to prevent its returning: in this also, if the cow is in a stall, she should be made to stand higher before than behind. The only medicine that can be necessary in either of these cases is some laxative medicine, if the bowels are not sufficiently open; and when the straining is so considerable as to render it impossible to replace the womb, an anodyne or opiate clyster should be thrown up, and if this fail, from half an ounce to an ounce of tincture of opium may be given as a drench. See *Clyster*.

FALLING OF THE FUNDAMENT. This is sometimes occasioned by a long-continued looseness, and is most likely to happen to animals of a weak constitution, and is often brought on by too strong physic, and sometimes by over-exertion. Mr. Lawrence says he has often seen it in hard driven pigs. After bathing the part with a little tincture of opium and warm water, it should be put back with the hand; taking care that the nails do not wound the gut. As soon as it is replaced, the tail should be kept close to the fundament for a short time. The bowels are to be kept rather open with bran-mashes or a little castor oil; and when the irritation of the gut is so great that it cannot be kept up, an opiate clyster should be injected, and immediately after the pipe is withdrawn, considerable pressure should be made on the fundament. In obstinate cases, where no other method will succeed, cutting off some part of the protruded gut has been recommended.

FALLING OF THE YARD OR PENIS. This consists in a relaxation and total weakness of the parts destined to support the penis in its natural situation. It may be produced by over-exertion, or by making a stallion cover too many mares, or by the pernicious practice of giving them cantharides. In recent cases it is generally sufficient to throw cold water

about the parts, or to bathe them with salt water, or vinegar and water, with a diet of bran-mashes to keep the bowels open. In obstinate cases, puncturing the penis in several places, and washing it with vinegar, has been recommended. But if the penis continues down after these remedies have been tried, it should be put back with the hand, and kept up with suitable bandages, leaving room for the urine to flow off.

FALSE QUARTER. A fissure or cleft in the hoof, generally in the inner quarter. It may be caused by a wound in the coronet, and is often a consequence of quittor, pricks in shoeing, and sand-crack. It sometimes happens that the wound in the coronet, or coronary ligament, is not sufficient to prevent it from forming horn, but causes an irregular secretion of horny matter, so that there is not a fissure but a line of imperfect horn, accompanied with tenderness, which, unless the pressure of the shoe is taken off from that quarter, often causes a horse to go lame. The treatment consists in blistering the affected part of the coronet and a little above it, and taking off the pressure of the shoe from that quarter of the hoof in the manner described under *Corns*. See *Sand-Crack*.

FARCY. This was formerly considered as a disease of the superficial veins, which, in the language of farriers, became knotted and corded. It has been ascertained, however, by Mr. Coleman, that it is an affection of the lymphatic or absorbent vessels. Its most usual form is that of small tumours, or buds, as they are termed, about the legs, inside of the thigh, neck, face, and other parts: the buds are at first hard, but gradually become softer, and at length suppurate and burst, and become a foul ulcer. Between the ulcers or buds there is generally a line of communication, or what farriers term a corded vein

is seen, which is, in fact, an inflamed lymphatic or absorbent vessel. (See *Lymphatics*.) When the farcy bud has burst, or has been opened, it sometimes spreads under the skin, forming what are termed sinuses or pipes; these should always be laid open with the knife through their whole extent, except when they occur about the joints or tendons, in which case they generally occasion lameness, and are difficult to cure. Sometimes the farcy comes on in a more violent and malignant form; there is a prodigious swelling of the legs or other parts; foul, spreading ulcers appear; the nose swells and discharges stinking matter: there is also considerable fever, and the horse soon falls a victim to the disorder. This malignant form of farcy, however, is not very common. When no remedies are applied, the farcy ulcers usually spread; but by dressing them with caustics, and laying open any sinuses there may be, they gradually heal, and the horse often appears to be cured. This apparent cure may continue from two or three weeks to several months, but it is generally followed by glanders. In some instances farcy is merely a local disease; and in such cases, if proper remedies are seasonably applied, it may be radically cured without being followed by glanders. The farcy sometimes attacks horses that are in good condition, and without any previous illness; at others it is preceded by various symptoms of constitutional derangement. In some cases the horse gradually loses flesh and strength, the coat becomes dry, the skin sticks close to the ribs, and the legs swell. These symptoms are followed by the appearance of farcy buds, and soon after by glanders. When farcy attacks a horse that is in good condition, there is a probability of its being cured by a proper mode of treatment, particularly if the buds are not numerous and confined to

the fore legs, without affecting the joints or tendons. Topical applications alone ought never to be depended on, but the following ball should be given morning and evening, provided it does not occasion sickness or uneasiness of the bowels.

Ball for Farcy:—

Sulphate of copper (blue vitriol) from one to two or three drams;

White arsenic and sublimate, of each, from ten grains to a scruple;

Powdered cascarilla-bark, from one dram to two;

Oil of caraway seeds, twenty drops;

Linseed-meal, half an ounce;

Venice-turpentine enough to form a ball.

When the buds become soft and appear to contain matter, they should be opened and dressed with some caustic preparation; as solution of sublimate in muriatic acid, with the addition of spirit of wine and water, in the following proportions:

Corrosive sublimate, one dram;

Muriatic acid, three drams;

Spirit of wine, one ounce;

Water, half an ounce.

First mix the sublimate and the acid, then add the water, and lastly the spirit. This is a strong preparation, and need be applied only once or twice, provided the bud has been completely laid open, so that every part of the diseased surface may be exposed to its action. After this, the sore generally heals of itself. Some practitioners use lunar caustic, powdered blue vitriol, with red precipitate and burnt alum; in fact, any caustic preparation will answer the purpose. Blistering the corded lymphatics has also been recommended. The horse's diet should be nutritious, but rather of an opening nature, as bran-mashes, with oats or malt, carrots, vetches, or lucerne: his water should be at

the summer temperature, or have the chill taken off. Regular exercise is necessary; taking care to avoid rain and cold winds, and clothing according to the season during the time of exercise. By adopting this mode of treatment at an early period, a cure may often be effected, provided the horse is in good condition, and not previously diseased: but the use of proper remedies is too often delayed until the poisonous matter has been absorbed; and then, though the farcy may be completely healed, and the horse apparently cured, I have generally found that he has eventually become glandered. In some instances, there has been an interval of several months between the supposed cure of farcy and the appearance of glanders. As to the cause of farcy, we only know that it may be produced by inoculating a sound horse, in any part of the body, either with matter taken from the nose of a glandered horse, or from a farcy bud, when first opened, or to which no caustics or other dressings have been applied. It may also be produced by rubbing glanderous or farcy matter upon a common sore on the body of a sound horse; but in this case the disease does not so readily take place; and though the sore generally assumes a different appearance after the poisonous matter has been rubbed on it, appearing at first indisposed to heal, or even to spread, yet, after a short time, it often heals spontaneously, and is not followed by glanders. Farcy sometimes appears in a horse that has for some time been glandered; and if a sound horse be suffered to feed or drink with one that is glandered, the first symptoms of his being infected by such communication will sometimes, but not often, be the farcy. The farcy, however, frequently takes place where there has been no known communication, either with a glandered or a farcyed horse; in such cases, the disease is, perhaps, produced by some

cause with which we are unacquainted. Dropsical swellings sometimes occur in the limbs, or other parts of horses, which farriers name Water Farcy; but it is a very different disease. See *Dropsy* and *Glanders*.

FARDEL-BOUND. See *Costiveness*.

FASCIA. A thin sheet of tendon, by which muscles are bound down and kept in their situation, as in the thigh and fore leg.

FAUCES. A cavity behind the tongue and uvula, from which the pharynx and larynx proceed.

FEBRIFUGE. Medicines that cure fever.

FEEDING. See *Stable Management*.

FELON, or EPIDEMIC COLD IN CATTLE. See *Influenza*.

FELON, JOINT. See *Rheumatism in Cattle*.

FENNEL SEEDS, SWEET. These are sometimes used as a cordial and carminative, but are not so efficacious as aniseed or caraway seeds. The dose, one or two ounces, with ginger.

FETLOCK. A tuft of hair growing behind the pastern-joint; when it is commonly named Fetlock-joint.

FEVER. Though horses and other domestic animals are liable to fever, there is not that variety in the disease, nor is it by any means so intricate as it is in the human subject. Some practitioners do not admit the existence of fever in the horse as a primary disorder, but consider it as symptomatic, or dependent either on general or internal inflammation. I am of opinion, however, that fever sometimes occurs unaccompanied by internal inflammation; but the latter is always attended with fever. Mr. Blainé has considered all the febrile affections of the horse under three heads; the common or simple fever, the symptomatic fever, and the malignant epidemic fever. This division of febrile diseases is, I think, applicable to cattle as well as horses. Simple fever

generally begins with a dull or languid appearance, loss of appetite, and quick pulse; sometimes it is preceded by shivering. The flanks move quicker than usual; the mouth feels hot and sometimes dry; the horse is generally costive, and the urine high-coloured, and often evacuated in small quantity. The conjunctive membrane of the eye-lids is often redder than usual. If in this first stage of the disease proper remedies are not employed, inflammation generally takes place in the lungs, or some other internal part; when the fever may be considered as symptomatic. (See *Inflammation, Internal*.) The first thing to be done in simple fever is to bleed freely; that is, to the extent of five quarts, unless some particular circumstances, such as great weakness, a feeble pulse, with no unusual redness of the inner surface of the eye-lids, indicate the impropriety of taking so large a quantity. The blood should be put aside for examination; for if, after it has coagulated, it appears pretty firm, and has a coat of buff or size on its surface, we may be assured that the fever is of an inflammatory nature, and that the bleeding may be repeated, if no abatement is observed in the symptoms, after an interval of six hours. After bleeding, the costive state of the bowels is to be attended to. To remove any indurated dung that may be lodged in the last gut, opening elysters should be injected; but when the state of the horse's dung cannot be otherwise known, which is often the case, it is better in the first place to draw out some of the excrement with the hand for examination. (See *Back-raking*.) If it be found rather hard, in small knobs, and slimy on its surface, the laxative below should be given as well as the clyster. But if the dung be found rather loose, and of a healthy appearance, the laxative had better

be omitted, and the fever ball given in its stead twice a day. If it be found proper to give the laxative, the fever ball may be given after its operation has ceased; unless the fever shall have been so far subdued as to render it unnecessary, a circumstance that often happens when the disease has been seasonably attended to and properly treated. The horse's drink should consist of water at the summer temperature, with a little sweet oatmeal stirred into it. Vetches, lucerne, or other green food, is much better for the patient than hay; but when these cannot be procured, bran-mashes are to be given. The animal should be kept moderately warm, and if the legs are cold, they should be well rubbed and bandaged. A hot close stable is injurious; and if he can be turned loose in a box, or two or three vacant stalls, it is always to be preferred. Should much weakness remain after the removal of fever, a moderate quantity of malt may be allowed in the form of mashes. The medicines usually given for the recovery of strength are those of the tonic and cordial kind. (See *Cordials* and *Tonics*.) But a good groom will often render such medicines unnecessary, and it is better to do without them if we can. The symptomatic fever will be noticed under the head *Inflammation*, *Internal*, and *Influenza*; and the malignant or epidemic fever, under the head *Murrain*.

The Laxative Drench and Ball.

The *Ball*:—Aloes and Castile soap, of each half an ounce.—Mix for one ball.

The *Drench*:—Powdered aloes, three drams;

Carbonate of potash, two drams;

Hot water, four ounces;

Castor oil, eight ounces.—Mix for one dose.

When a speedy effect is required, the drench should

be preferred; but the ball has one advantage, which is, that the whole dose is sure to be given, whereas some part of the drench is often wasted.

Fever Powder and Ball.

Powdered nitre, one ounce;

Tartarized antimony, two drams.—Mix.

Should the form of a ball be preferred, the change may be made by the addition of a little flour, and treacle or honey. This dose should be given twice a day, until the horse's urine is perceptibly increased: once a day will then be sufficient to keep up a moderately increased secretion of urine. According to Mr. Blaine, "If the horse, instead of becoming lively and showing symptoms of recovery, appears dull and heavy, starting sometimes and dosing at others; with a weak quick pulse, liquid stools, and profuse staling, great danger is present, and the treatment must be very active to prevent a fatal termination; for this he directs to be given, every four hours, powdered ipecacuanha, camphor, and opium, of each one dram, either as a drink or formed into a ball. Should not amendment follow speedily on this, that is, if the watching and stupidity increase, for sometimes one and at other times the other of these symptoms are present, and if the pulse becomes weaker, the following is to be given:

Carbonate of ammonia, half an ounce;

Vinegar sufficient to make it taste neither salt nor sour;

Snake-root in powder, two drams;

Camphor and opium, of each two drams.—Mix with gruel, and give it every four or six hours."

I never saw such a case as Mr. Blaine has here described; and if it does occur, am inclined to doubt the propriety of the treatment he has recommended, particularly in giving *two drams* of opium and *two*

of camphor at one dose, and repeating it every four or six hours, and in drenching the horse frequently with strong ale or wine mixed with gruel. The directions that have been given for the treatment of simple fever in horses are applicable also to cattle. In one of Doctor Clater's purging drinks for fever, *two ounces* of powdered ginger are prescribed; and in another two ounces of aniseeds in addition to the ginger; a certain method, I should suppose, of aggravating fever.

FIGGING. Forcing a bit of chewed ginger up the horse's fundament, or into the vagina of a mare, to make them carry their tails high.

FIRING. A severe operation, often performed on horses for old strains, spavins, curbs, ring-bones, &c.—It consists in drawing lines in various directions on the affected part with a red-hot iron. In the fourth volume of the 'Veterinary Medicine,' the reader may find a minute description of this operation, and a plate representing the instruments that are employed, and the method of throwing down and securing the horse. It may be laid down as a general rule, that no part is in a fit state either to be fired or blistered, when the skin is hot and inflamed; and that the skin should never be penetrated with the iron. I have fired many hundreds of horses, and have seen much benefit result from the operation: it unfortunately happens, however, that it is too often performed in cases that are absolutely incurable, and it is sometimes impossible to ascertain whether it will be effectual or not. Immediately after a horse has been fired, a mild blister should be applied to the part. The first night the horse should be tied up short, to prevent his biting or rubbing the part. The following day he may be turned loose into a box, or other place where he can move himself about; and, to prevent his rubbing the part, the necklace or cradle should

be placed round his neck. In about a week the fired part will become dry; some oil should then be applied, and the horse turned to grass. When any heat or inflammation is perceived in a part that requires firing, it is adviseable to defer the operation a few days, and in the mean time bathe or sponge the part frequently with cold saturnine lotion. This is made by mixing two ounces of acetate of lead with a pint of vinegar and a gallon of water.

FISTULA OF THE WITHERS. An obstinate disease of the horse's withers, or top of the shoulder, commonly produced by a bruise from the saddle. When a horse is ridden with the fore part of the saddle constantly bearing on the withers, inflammation and swelling will generally be the consequence. A considerate person will not suffer this accident to happen; he will examine the saddle before he gets on horseback, and if he finds it too close upon the withers, cause it to be altered. Should it not be perceived at this time, on account of the saddle being girthed pretty far back, but get forward during the journey, and press upon the withers, the experienced or feeling rider will soon discover the inconvenience and pain the animal suffers from it, which is sometimes so considerable as to cause him to fall; and as soon as he gets to the end of his ride, will have the part frequently bathed with some Goulard's extract, vinegar and water, or the cold saturnine lotion, the formula for which is given in the preceding article. This will soon remove the inflammation; and when the saddle has been properly altered, the horse may again be ridden without inconvenience. It too often happens, however, that the rider is not so considerate, but by a repetition of the injury violent inflammation ensues, which often extends to the bones and ligaments of the withers. The swelling increases; suppuration follows; and when the abscess bursts, or

is opened, a large quantity of matter is discharged. On introducing a probe, the disease will generally be found to have spread either towards the mane, or the back, or downwards, in the direction of the shoulder blade. If the disease, after this, is neglected, or improperly treated, the matter will continue to penetrate, and the cartilages and bones of the withers will ultimately become carious or rotten. It is in this stage of the disease that the horse is often brought to the veterinary surgeon. When tenderness and swelling are observed on the withers, the part should be frequently bathed with the Goulard mixture, or cold saturnine lotion before mentioned; but if this do not remove the inflammation, and if the swelling appear to increase, suppuration may be expected, which should then be promoted by poultices. When the abscess has become soft, and the suppurative process appears to be complete, (see *Abscess*,) an opening should be made in it with a lancet; and as soon as the matter is discharged, a probe is to be introduced, in order to ascertain how far, and in what direction the disease has extended. If the matter has penetrated, and formed sinuses either forwards or backwards, they should be completely laid open with the knife; and the most convenient instrument for the purpose is the straight, probe-pointed bistoury. If the matter is found to have penetrated downwards in the direction of the shoulder, a seton may be passed through the sinus, from the opening above to its lowest part; taking care that the lower opening is sufficiently large to allow the matter to run off freely. The first dressings should consist of some mild caustic, or rather escharotic preparation; but in obstinate cases of long standing, the stronger caustics are often found necessary. In this first stage of the complaint, perhaps the ointment of nitrated quicksilver, mixed with oil of tur-

pentine; or a strong solution of blue vitriol, with the addition of a little muriatic acid, will be found to answer the purpose. When the sore begins to assume a healthy appearance, milder applications are proper. In the more inveterate cases of fistula, butter of antimony will be found an active and useful preparation; and in such cases, a preparation termed the *scalding mixture* by farriers, has proved beneficial. It consists of any fixed oil, (as lamp oil, or train oil,) spirit of turpentine, verdigris, and sublimate. These are put into an iron ladle, and made nearly boiling hot; and in this state the mixture is to be applied to the diseased parts, by means of a little tow, fastened to the end of a probe, or stick. It is necessary to prevent the mixture from flowing over the sound parts; as it would not only take off the hair, but cause inflammation and ulceration of the skin. This precaution should be observed with regard to any caustic preparation that may be used, as well as to the acrimonious matter, which the fistula discharges. I have generally succeeded in protecting the parts over which the matter flows, by washing them once a day, and smearing them over with lard. One circumstance it is very necessary to attend to in the treatment of fistula; that is, if there be any cavity, pouch, or sinus, by which the matter may be detained, the obstacle should be immediately removed; either by laying it completely open, or by making an opening in the most depending or lowest part, so as to allow the matter to run off freely. We sometimes find the edges and sides of the fistulous sore considerably thickened; and if we examine this, it will be found a diseased production: I have, in many instances, in poll-evil, as well as in fistula, cut out a large quantity of this thickened matter; and have always found considerable advantage from it. When the bones of the withers are exposed, and

feel rough, they should be scraped with a drawing-knife, or other convenient instrument, and then covered with a pledget of tow or lint that has been dipped in tincture of myrrh. See *Caustics*, and *Escharotics*.

FIX-FAX. A name given by farriers to a strong, but elastic ligament, which has a firm attachment to the back part of the horse's head, and to the bones of the withers and back; it is connected also with all the bones of the neck, except the first, or *atlas*. The use of this ligament is to support the head; an office to which the muscles alone would be unequal.

FLATULENT COLIC. See *Colic*.

FLEXOR. A term given to muscles which bend parts. Thus the fore-leg is bent by its flexor muscles. See *Muscles* and *Tendons*.

FLOWERS. A term applied to the finer parts of bodies which are separated by sublimation; as the flowers of benzoin, sulphur, zinc, &c.

FLUX or BLOODY FLUX. See *Dysentery*.

FLY. The sheep-fly abounds most in the southern parts of this island; and is chiefly troublesome to lambs. The most effectual way of protecting them from the insect is to smear the fleece with some rancid oil, or train oil.

FOALING. When a mare is near her time, she should either be turned loose in some large place well littered, or kept in a sheltered paddock where there are neither pits nor ditches.

FOENUGREEK SEEDS. These seeds contain a good deal of mucilage; and have, therefore, been employed in emollient drinks and clysters, also in emollient fomentations and poultices. Gibson recommends them in consumptive diseases, or for horses that are inclined to be broken-winded. They are seldom employed in modern practice.

FOMENTATION. A sort of partial bathing by applying flannels that have been wrung out of a

hot decoction of certain herbs, or other medicated liquid, whereby steams are communicated to the diseased parts, their vessels are relaxed, and the inflammation that is going on often removed. The following is directed by the London College of Physicians. Take of the leaves of southernwood, dried; the tops of sea wormwood, dried; camomile flowers, dried, of each one ounce; bay leaves, dried, half an ounce; water, six pints. Boil them a little; and strain. Many other vegetables have been recommended for making fomentations; but, I believe, warm water alone is as effectual as the most elaborate preparation. Emollient fomentations are generally made by boiling marsh mallows, fœnugreek, or other mucilaginous substances in water; and the anodyne fomentation consists of a decoction of white poppy heads dried. A decoction of hemlock is sometimes employed also for this purpose.

Food. See *Stable Management*.

FOOT or HOOE. To a person totally unacquainted with the structure of the horse's foot, it may appear as a mass of horny insensible matter; particularly when he sees a farrier cutting off large slices of it with his butteris, and nailing to it plates of iron. It will be found, however, to be a very complicated piece of animal mechanism; but admirably calculated for sustaining the immense pressure and concussion, to which it is almost constantly exposed. The horse's foot may be considered under two heads; the sensitive and horny parts: the former consists of bones, ligaments, cartilages, membranes, &c., each of which possesses numerous blood vessels and nerves; and is, therefore, susceptible of inflammation and pain. The horny part, on the contrary, is void of sensibility, and serves principally as a defence to the sensitive parts which it covers: it is endued, however, with considerable elasticity, which

enables it to yield, in some degree, to the impulse of the internal or sensitive foot in the various motions of the animal. From this view of the subject it will be obvious, that if by any means a disposition or tendency to contract or shrink be induced in the horny covering or hoof, the internal sensitive foot will be more or less compressed; and if the horny matter lose its elasticity, the sensitive foot must suffer from concussion. So wisely, however, is every part of the foot contrived, that when it is properly managed by the groom, judiciously pared and shod by the smith, and when the horse is employed only by a humane and considerate master, it may generally be preserved in a sound state perhaps as long as other parts of the body. I am aware that a different opinion is held by some eminent veterinarians; particularly by Mr. Bracey Clarke, who considers contraction of the hoof, and a gradual loss of elasticity, as unavoidable consequences of shoeing. I conceive, however, that if one old horse can be produced, say from twelve to twenty years old or more, whose feet are sufficiently sound to enable him to continue his labour without inconvenience, the truth of Mr. Clarke's position will at least appear doubtful. It must be admitted that old horses, like old men, have not that ease and freedom of motion, which they possessed in their youth; and that their feet, like all other parts of the body, are subject to disease from various causes, even in a state of nature. I have seen several colts with diseased frogs and contracted hoofs, that had never been shod; and many old horses, from twelve to twenty years old, that have continued sound and serviceable. (See *Shoeing*, and *Hoof, contracted*.) I now proceed to a brief description of the different parts which constitute the horse's foot, including in that description the pastern, canon, and sesamoid bones.

1. The *Coffin-bone*, which somewhat resembles the hoof in shape, is remarkable for containing the two principal arteries which supply the foot; they enter the lower and back part of the bone immediately under and behind the termination of the flexor tendon. The arteries give off several branches within the coffin-bone, which pass out through orifices at its lower and front part, to be distributed over its surface. The coffin-bone is connected with the coronary or small pastern-bone, and with the nut-bone. Its anterior and lateral surface is covered by numerous blood vessels, and the sensitive laminæ or elastic membranes. The under surface has also numerous blood vessels; great part of it is covered by the sensitive sole, and at the posterior part, the flexor tendon is inserted or fixed.

2. The *Nut-bone* is in shape not much unlike a weaver's shuttle. It is interposed between the flexor tendon, and the other bones; to remove the insertion of the tendon farther from the centre of motion; having a polished surface constantly moistened by a slippery fluid resembling joint oil, over which the tendon passes immediately before its insertion into the coffin-bone.

3. The *Coronary* or *Small Pastern-Bone* rests both on the coffin-bone and the nut-bone; to which it is firmly united by ligaments.

4. The *Great Pastern-Bone* rests on the coronary bone, strongly attached to it by ligaments.

5. The two *Sesamoid-Bones* are placed at the upper and posterior part of the great pastern; to which they have a strong ligamentous attachment.

6. The *Canon* or *Shank-Bone* rests both on the great pastern and the sesamoid-bones. It articulates with, and moves easily upon them. If we view the fore-leg of a horse, (particularly when the other is held up, that more weight may be sustained by the

leg we examine,) the straight or perpendicular direction or position of the limb from above to the fetlock joint, and its obliquity or slanting position thence to the foot, can scarcely escape observation. From this examination it may be readily conceived, what astonishing spring the animal must acquire by having his limb so formed; and what strength must be possessed by the ligaments of the fetlock joint, to enable it to maintain its position, under the immense weight it has occasionally to sustain.

7. There are two elastic bodies attached to the upper, anterior, and lateral edge of the coffin-bone; they are named *Lateral Cartilages*. They occupy all the space between the extensor tendon, and the back part of the sensible frog. They extend upward about three inches: anteriorly they are convex, resembling, indeed, the shape of the hoof; and their posterior or concave part is filled up with a substance resembling fat. The lower part of these cartilages is covered by the hoof.

8. The *Elastic Membranes* or *Laminæ* cover all the front and lateral surface of the coffin-bone, at the extremity of which they turn off at an acute angle, stretching forwards to the side of the sensitive frog; here they form what have been named the *Sensitive Bars*. The laminæ are elastic, and very vascular; they are said to be about five hundred in number. These laminæ are received between corresponding laminæ in the hoof; but there is a material difference between them. The laminæ of the hoof are void of sensibility, possessing neither blood vessels nor nerves; they appear to be very thin plates of horn, and are probably secreted or formed by the laminæ of the coffin-bone. These two kinds of laminæ form the connecting medium between the hoof and coffin-bone; and so strong is their union, that it

is found impossible to separate them without tearing or stripping off the sensible laminæ from the coffin-bone, unless the foot is macerated in water, or kept in a moist state for some time before it is attempted.

9. The *Coronary Ring* or *Ligament* is a vascular substance, situated at the upper part of the elastic laminæ; it projects considerably, and extends round the coronet; and is lost in or rather blended with the posterior part of the sensitive frog. When the sensitive foot has been separated from the hoof, the coronary ring appears to be covered with delicate red filaments; and in the circular groove or cavity at the upper part of the hoof, in which the coronary ligament is contained, there appear to be corresponding orifices, into which probably the filaments are received. The hoof is first formed by the vessels of the coronary ligament; but, as it descends, or grows down, becomes thicker and stronger by the additional horn it acquires from the elastic laminæ.

10. The *Extensor Tendon* is fixed or inserted into the upper and front part of the coffin-bone; and the *flexor tendon* into the under and posterior part.

11. The *Sensitive Frog* resembles a wedge, its point is towards the toe, whence it becomes gradually wider and larger; it is divided by a cleft in its centre towards the hind part, by which it is enabled to expand or become wider when exposed to pressure. The sensitive frog is made up of cartilaginous and fatty matter, and possesses considerable elasticity: its fore part rests on that part of the flexor tendon which passes over the nut-bone, and on that which is inserted into the coffin-bone; from this part its cleft or division commences: only a small portion, therefore, of the sensitive frog rests on the coffin-bone, and flexor tendon; the wide part of the frog projects considerably behind these, forming the bulbs of the heels, and, taking a turn forwards, is

blended with the coronary ligament. At its widest or posterior part, there is a considerable distance between the sensitive frog and the flexor tendon, the intermediate space being filled up with an elastic fatty kind of matter: by this contrivance the frog is capable of considerable motion, when it receives the pressure of the horse's weight, which it must do when its horny covering is in contact with the ground. As the back part of the frog becomes wider and is forced upward when sustaining pressure, it must have a similar influence on the elastic parts with which it is connected; the lateral cartilages, and the lateral portions of the coronary ligament. These, being covered by the flexible horny matter at the top of the hoof or coronet, must necessarily have the same effect upon it: thus it is that when the horse is in motion, there is a certain degree of motion in the heels and quarters of the hoof at the higher parts, or where the horn is flexible.

12. The *Sensible Bars*, I have before observed, are formed by an inflection of the sensible laminae, when they arrive at the heel, or termination of the lateral surface of the coffin-bone, whence they pass obliquely forward to the sides of the sensitive frog.

13. The insensible part or hoof of the horse corresponds exactly in shape with the sensible parts which it covers and protects; in fact, the horny matter is formed by the parts which it covers; and has the same relation to them as the cuticle to the skin. This resemblance in form is easily demonstrated, by procuring a horse's foot as soon as it is cut off, and placing it in hot dung for a few days, or until the sensible foot can be readily separated from the hoof; thus a complete view may be obtained of both. Those parts of the sensitive foot that have been described, but cannot be seen on the surface, may be exposed by dissection; and the hoof may be

easily divided by a fine saw, so as to give a satisfactory view of the whole.

The hoof consists of the wall or crust, the sole, the frog, the bars, and the insensible laminæ. The upper part of the crust, where it joins the skin, is named the Coronet; the lower part in front, the Toe; the sides of the crust are termed the Quarters; the quarters terminate in the heels, and the heels are connected with the frog. All the internal surface of the hoof, except the groove, that has been already noticed, at its upper part for the reception of the coronary ligament, is covered by a beautiful laminated substance, which resembles the under surface of a mushroom. These are united or interwoven with other laminæ, already noticed, which cover all the anterior and lateral surface of the sensitive foot; forming, as has been before observed, a very secure kind of union between the crust and the internal foot. The laminæ of the hoof are elastic, and yield in a small degree to the pressure of the horse's weight. They appear to be of a horny nature, and, like the hoof, void of sensibility, being a secretion or production of the sensible laminæ. The bottom of the hoof is formed by the sole, the frog, and the bars. The frog is connected with the sole and bars; it resembles a wedge in its form, but towards the heel, where it becomes wide and expanded, there is a cleft or separation in the middle. When the frog is in contact with the ground, I have already explained the effect that must be produced upon the flexible parts of the heels and quarters of the crust. The bars are of the same nature as the crust, of which they appear, indeed, to be a continuation, as the sensible bars are of the sensible laminæ. The crust at the heels appears to take a sudden turn, so as to form an acute angle; and then passes obliquely forward on the under part of the hoof towards the toe, or

rather the side of the frog: it is these inflected portions of the crust which are named Bars.

I have now finished the brief description I proposed to give of the horse's foot; to which the reader may refer, if he find any difficulty in comprehending the explanation that will be given of its diseases, and of the principles and practice of shoeing.

Foot-Rot. A disease in the feet of sheep, which is first discovered by the animal becoming lame. On examining the foot, some ulceration will be found between the claws or hoofs, sometimes penetrating under the horn; when this is observed, the horn which covers the diseased part must be completely pared away with a sharp knife. When the bleeding has ceased, let the affected part be washed twice a day with the following preparation: Take

Blue vitriol,	} of each one ounce;
Alum,	
Vinegar, four ounces;	
Water, eight ounces.—Mix.	

Or take

Verdigris in powder, one ounce;
Nitrous acid, two ounces;
Water, four ounces.—Mix.

In slight cases, or at an early period of the complaint, the first recipe will generally be found to succeed; but in more inveterate cases, the second will be found more efficacious. When these applications fail, other astringents and caustics may be tried; the former for incipient or slight cases, the latter for such as are of long standing. A solution of blue or white vitriol, of alum, or of sugar of lead in vinegar, is a powerful astringent: and a strong caustic may be made by dissolving red precipitate in nitrous acid, or sublimate in muriatic acid; but these must be used with caution, and often require to be diluted with water. See *Caustics*, and *Astringents*.

It is essentially necessary in this disease, to keep the feet from moisture as much as possible, particularly for an hour or two after they have been dressed; when the sheep should be kept in a dry fold yard, and afterwards turned into some upland, dry pasture. It is equally important to examine the foot every time of dressing, lest the ulceration spread under the horn; whenever this is observed, the horny part must be carefully pared away, or the diseased part will be out of the reach of the remedy, and the ulceration may continue to spread until the whole foot is affected. When the land is so situate, that exposure to moisture is unavoidable, the foot may be in some measure defended from it, by means of tar rendered more adhesive by the admixture of a little pitch or resin. When spongy or proud flesh springs up between the claws, it should be removed either with the knife or lunar caustic. Some useful observations on foot-rot have been published by M. Pictet in the *Philosophical Magazine*. He found the acetate of lead or saturnine extract useful, (I suppose sugar of lead and Goulard's extract are meant,) and lapis infernalis to destroy bad flesh. He thinks the disorder is contagious. A copious extract from M. Pictet's work may be found in a *Treatise on the Diseases and Management of Sheep*, by Sir George Stewart Mackenzie, bart., and is well worth the attention of those who are interested in the subject.

FOREHAND. That part of a horse which is before the rider.

FOUL IN THE FOOT. A disease incident to horned cattle, which appears to resemble the foot-rot in sheep. According to Mr. Skerrett, it proceeds from two causes; accidents, and a morbid state of the system. The accidents which produce it are gravel, or other hard bodies getting between the claws, and

causing by their pressure and friction great pain and inflammation. This, he says, may be cured by the following ointment spread on tow, and bound on the part. It may be superfluous, perhaps, to add that the part is first to be washed. "Take soft soap and common turpentine, of each one pound; let them be melted together over a slow fire until they are perfectly united. The dressings" he says, "may be repeated two or three times, which never fails to complete a cure." Mr. Clater, being a druggist as well as a cow doctor, does not consider it as a local disease, and thinks that "cows of a gross habit suffer most by it:" generally he observes "it makes its appearance between the claws of the hoof in the form of a hard crack, attended with considerable inflammation; and in a short time will discharge offensive matter similar to that in grease in horses' heels. At other times, it makes its appearance in a large tumour upon the coronet (coronet) between the hair and the hoof, attended with violent pain and inflammation." It is evident from Skerrett's and Clater's description, that they have given the same name to different diseases. Skerrett's treatment appears to be in some respects judicious, and I suppose has been found successful. But I should not trespass on the reader's patience so much as to transcribe Doctor Clater's mode of treatment, if I did not think that its injurious tendency ought to be exposed. After he has informed us that the disease is "attended with considerable inflammation," that "the pain is often so considerable as to reduce them of their flesh till they become a mere skeleton," he directs "butter of antimony, oil of vitriol, or aquafortis" to be applied to the part; and he says that "this may be done for two or three days together." "But," he observes, "if the part swell, and appear much

inflamed," (I should be *much* surprised if it were not so, after the Doctor's dressing,) "let it be well rubbed with the following liniment:

Camphor, one ounce;

Spirit of turpentine, four ounces;

Oil of bays,

Ointment of elder,

Ointment of marsh mallows,

} of each four
ounces.

And then if the tumour be likely to suppurate, apply the following poultice: tar one pound, melt it over the fire, then add linseed in powder half a pound." The Doctor concludes his subject by recommending two or three purging drinks. The treatment of this disorder, or "foul in the foot," as farriers have named it, is in reality very simple. If it be caused by gravel or other hard matter getting between the claws, after washing the part, the application of some emollient ointment will probably soon remove any inflammation it may have produced; if the inflammation run high, a poultice of linseed meal and bran will, perhaps, be more effectual. If the beast is feverish, bleeding will be proper; if costive, a laxative drench. Should ulceration be observed after the inflammation has been subdued, try first an astringent-wash, as a solution of alum, white vitriol, or sugar of lead; and if this fail, let a solution of blue vitriol be applied. If it degenerate into, or appear at first, as a foul spreading sore, discharging stinking matter, some caustic preparation will be most effectual; not omitting to pare away freely any horn under which the disease may have spread; and to keep the parts from dirt and moisture. The disease appears to be local; and bleeding or purging can only be required when the pain and inflammation have brought on symptomatic fever, attended with costiveness.

FOUNDER. Farriers have generally noticed two kinds of this disease, the *foot-founder*, and the *body-*

founder. Under the article *Chill*, this disorder has been fully described; and its appropriate remedies pointed out; but with respect to *foot-founder*, some further observations will be found under the head *Inflammation of the Foot*. See also *Chest-founder*.

FOX-GLOVE. See *Digitalis*.

FRACTURES. It is seldom advisable to attempt the cure of a fractured bone in horses, on account of the great trouble and expense that attend it, the length of time necessary to its accomplishment, and the chance of the animal being eventually either of little value, or altogether useless. Indeed, it is only in fractures below the knee, or the hock, where there is any probability or chance of succeeding. The method of cure consists in bringing the divided ends of the bone as completely together as can be, and keeping them in that situation by suitable splints, bandages, and plasters, until the ends of the bone are firmly united. The horse must be prevented from resting on the limb, till the union is accomplished. When the end of the broken bone penetrates through the integuments, and appears externally, it is termed a Compound fracture.

FRENZY. See *Brain, inflammation of*.

FRET. See *Colic*.

FROG. This part of the horse's foot has been already described. (See *Foot*.) For an explanation of its diseases, see *Canker*, and *Thrush*.

FROG ARTIFICIAL. Mr. Coleman has contrived a kind of wedge made of cast iron, for the purpose of applying pressure to the horse's frog as he stands in the stable. It is sold at the Veterinary College, with directions for applying it.

FUMIGATION. The extrication of certain vapours from nitre, salt, or other substance in infected stables, for the purpose of purifying them. Many preparations have been recommended for fumigation;

only two of them, however, appear to be worth notice.—1st. In a large dish of hot sand, place a cup or other vessel with some powdered nitre in it; pour upon the nitre a quantity of oil of vitriol, equal to half its weight. No person can remain in the stable while this process is going on, as the vapour which arises is of a very suffocating nature. To retain the vapour in the stable a sufficient time, the door, windows, and every aperture should be carefully closed.—2nd. Instead of the nitre, put into the cup a mixture of powdered manganese, and common table-salt, of each equal parts; upon this mixture pour half its weight of oil of vitriol, and immediately after leave the stable; as the fumes from this mixture are far more suffocating than the former, but certainly more effectual. In one experiment, I found that the infectious property of glanderous matter was destroyed by being exposed to this vapour. Before a stable is fumigated, all litter, hay, dust, &c. should be swept out; and the whole stable well cleaned. The rack, manger, and wood-work between them should be scraped, and thoroughly washed; and the fumigation is to be made immediately after, while the wood is moist. The following day the door and windows should be thrown open, and suffered to remain so until the vapour is perfectly gone.

FUNDAMENT DOWN OR FALLEN. See *Falling of the Fundament*.

G.

GALANGAL ROOT. A warm aromatic bitter; the dose about one ounce.

GALBANUM. A gum resin employed for the same purposes as ammoniacum, that is, in coughs, and

asthmias; but is thought less efficacious than the latter.

GALL or BILE. A yellowish, bitter juice secreted from the blood by the liver. In the human liver, as well as in many quadrupeds, there is a reservoir, where it is deposited for a time, named Gall-bladder; but this does not exist in the horse. The gall is conveyed by the biliary duct to the duodenum, or first intestine, where probably it is concerned in the separation of chyle from the digested food; and serves afterwards by its irritating or stimulating quality, to promote that peculiar motion of the intestines, by which their contents are gradually propelled towards the fundament. See *Nutrition*.

GALL, from the saddle or harness. (See *Fistula*, and *Sifast*.) It may not be amiss, however, to observe that the ointments usually employed for saddle-galls are injurious while the part is inflamed. See *Elder*, and *Marshmallows*, *Ointments*; also *Back*, *Galled*.

GAMBOGE. A yellow, gummy and resinous substance. In the human body it is a strong purgative; but in the horse it is necessary to give from four to six drams to cause purging. For all veterinary purposes, I believe, aloes are preferable to gamboge.

GANGLION. See *Windgalls*.

GANGRENE. The death or putrefaction of a part in consequence of violent inflammation. See *Mortification*.

GARGET OF THE LIMBS, Joint Yellows, or Rheumatic Lameness. "This disease," according to Mr. Skerrett, "is little understood by cow doctors in general, and through their ignorance and improper treatment, many a fine cow is lost." It appears to be brought on by a chill, or, as he terms it, by "heats and colds." He observes that working oxen are

more subject to it than cows. It appears at first as a severe cold; the coat soon appears of a rusty colour, the hair stands an end, and the hide sticks to the ribs: the animal rises, and walks with pain and difficulty; the exertion often causing violent heaving of the flanks. In cases of long standing, the joints seem to crack when the animal attempts to walk; and there is not unfrequently a swelling of the joints and udder. Though the animal appears low and lean in flesh, bleeding is absolutely necessary, which may be repeated, if found necessary; and if the bowels are not sufficiently open, a purgative drench is to be given. After the operation of the purgative, give the following drench daily for two or three days; and, if the joints are swollen, let them be rubbed with some warm embrocation.

Drench:—

Camphor, two drams;

Tincture of opium, half an ounce;

Balsam of capivi, one ounce.—To be given in ale.

GARGET OF THE MAW. See *Indigestion*.

GARLIC. Gibson and some other writers on Farriery considered garlic as a valuable remedy in coughs and asthmatic complaints. He advises two or three cloves cut small, to be given in each feed; and observes that “by continuing this practice, with right and well-timed exercise and careful feeding, he has known abundance of horses recover to admiration, even when there had been a suspicion of their wind.” It is a fact that cannot be too generally known, that the following preparation of garlic has, to my certain knowledge, cured several cases of epilepsy or fits in the human subject; a dreadful disease, that seems to have baffled, in most instances, every effort of medical skill. In one case, the patient had been afflicted with the disorder about twenty years, and had been under the care of many medical prac-

titioners, without receiving any benefit.—The recipe:

Garlic, half a pound;

Water, one pound.—To be placed in an oven until the virtues of the garlic are extracted.

Two tea-spoonsful of the strained liquor to be taken before and after every meal.

GASTRIC JUICE. A juice formed in the stomach for the purposes of digestion.

GELDING. See *Castration*.

GENTIAN. A bitter root often used in the composition of tonic or stomachic balls and drenches. The dose from two or three drams to six. It is the principal ingredient in that celebrated panacea of farriers, diapente.

GID. A disease incident to sheep known by various names; among which are, Giddiness, Turnsick, Staggers, Sturdy, Dunt, Goggles, &c. This disease has been noticed under the head *Brain, Dropsy of*; but I wish here to observe, that according to Mr. Findlater, in the operation, recommended by Sir George Mackenzie, of thrusting a sharp wire or knitting needle up the sheep's nostril until it reaches the part where the water is collected, or in that of trepanning the skull, one case in three usually ends favourably. See *Brain, Dropsy of*.

GIGGS or BAGS. These are painful tumours on the inside of the horse's cheek near the angle or corner of the lips; they often cause considerable inconvenience, and prevent the animal from feeding or masticating with ease. The cure consists in cutting off the tumour with a knife or scissors, and washing the part afterwards with a solution of white vitriol, blue vitriol, or alum.

GINGER. This well known root appears to me the most useful aromatic stimulant for veterinary purposes of any we are acquainted with. The dose for horses is from two or three drams to six. Cattle

doctors usually give larger doses: Dr. Clater, in several of his drenches, prescribes two ounces with other stimulants.

GLANDS. Soft spongy substances in various parts of the body, which serve to secrete particular humours from the blood. They are vulgarly named *Kernels*.

GLANDERS. A contagious disease, peculiar to the horse, the ass, and the mule. Glanders often attack horses that are in good condition, and so little is their general health sometimes affected by the disease, that I have often known glandered horses continue their work for four or five years without any interruption, except from lameness or other accidents. For more than ten years I have had the care of several teams of glandered horses, which were regularly worked from Exeter to Plymouth. Every precaution was of course observed to prevent mischief; detached stables were provided at every place where they halted; and the greatest care taken to prevent their having any kind of communication with other horses. The time a glandered horse continued fit for work varied considerably; in many instances, they have appeared strong, and worked regularly for four or five years; sometimes only a few months; most commonly, however, they lasted two or three years. They rarely died of the disease, for as soon as they became incapable of continuing their labour so as to earn the expense or value of their keep, they were destroyed. The proprietor having a great number of horses working on other roads, whenever one of them became glandered, he was sent to the glandered teams, and by such recruits the strength of these teams was kept up for many years. It is worthy of remark, that when the superintendence of the horses, from which the glandered teams principally derived their reinforcements, de-

volved on a person who had been convinced by some decisive experiments that the disease was contagious, and who was scrupulously careful in separating a horse from others as soon as the slightest suspicion arose of his being infected, from that time recruits became more and more scarce; and it was found necessary, as a glandered horse fell off, to replace him by one that was free from the disease; at length very few glandered horses remained, and at this time there is not one left. During the time I attended these glandered teams, I was employed for about two years by another proprietor of waggons, who also kept a glandered team: here the stables and general management of the horses were but indifferent, the work too hard for their keep and condition, that is, they were not fed so well, or in any respect so well treated as the horses before noticed; the consequence was, they increased rather than diminished, and became unfit for work in a much shorter time: many of them became farcied as well as glandered. The above circumstances are stated merely for the purpose of showing, that the following observations on glanders are grounded on experience; and it may not be improper to add, that, previous to this, the disease particularly engaged my attention, during the seven years I had the honour to serve as veterinary surgeon in the Royal Dragoons.

There are two kinds of glanders; the mild and the virulent, or the chronic and acute.—The symptoms of mild glanders are, a discharge of matter from one or both nostrils, and a swelling of the glands or kernels under the jaw. When the discharge of matter is from one nostril only, which is often the case, the glands on the same side only of the under jaw-bone are affected. The matter discharged from the nostril is not of a whitish colour and cream-like consistence, as it usually is from an abscess, or from strangles;

it has rather a glairy appearance, and sticks about the upper lip and exterior part of the nostril. The discharge is seldom so considerable as in strangles or violent colds. There is no cough, and the general health does not appear in any degree affected; the horse feeds well, is lively, and continues in good condition. On inspecting the nostrils, ulceration is seldom observed, nor has the matter which is discharged any offensive smell; yet this has by many been considered as a distinguishing mark of glanders. The disease often continues in this stage a considerable time, particularly when the patient is of a hardy constitution, was in good condition at the time he was attacked, and is not over-worked and badly fed. But when it attacks horses that are pent up in hot close stables, employed in violent exertion, and when overheated exposed to rain and cold winds, and particularly if worked beyond their condition and strength, the progress of the disorder is usually more rapid, and the first symptoms are generally of a formidable appearance; hence it is, that stage-coach and post-horses are often so violently attacked, and that in such horses, the virulent or acute glanders, sometimes accompanied by farcy, are most frequently met with. In virulent glanders there is generally a considerable discharge, often from both nostrils, and the glands under the jaw are much enlarged. The inner parts of the nostrils are commonly ulcerated, and when the matter has an offensive smell, or is mixed with blood, though the ulcers cannot be seen, there can be no doubt of their existence in the higher parts of the nostrils. When the disease has become thus virulent, there is generally a falling off in strength and flesh, respiration is often impeded by the matter and ulceration within the nostrils, abscesses form in the lungs, and the horse sinks under the complaint. The disease is sometimes preceded by languor, weakness,

loss of flesh, a dry staring coat and tight skin, and want of appetite. In this declining state the horse may continue two or three weeks; at length there is a copious discharge from the nostrils, the glands become enlarged, and the progress of the disease in such cases is generally rapid.

Method of distinguishing glanders from some other diseases which may be mistaken for it.—In catarrh or cold there is often a discharge from both nostrils; but it is attended with cough, dulness of the eyes, and general indisposition, which is not the case in glanders. In strangles, there is frequently a discharge from the nostrils, and a swelling under the jaws. Here also the discharge proceeds from both nostrils, the matter is generally of a whitish colour like the matter of an abscess. The swelling under the jaw is more diffused than in glanders, it is also tender, becomes gradually larger, and at length suppurates and bursts; soon after this happens, the horse gets well. Strangles are also attended with general indisposition, dulness of the eyes, and cough; and not unfrequently before the swelling suppurates, there is considerable difficulty in swallowing. Chronic catarrh or mesenteric consumption is often mistaken for glanders. From sudden changes of temperature, that is, by suffering a horse to stand in a cold wind or rain after being heated by exercise, the lungs may be affected with a chronic kind of inflammation, accompanied by a similar affection of the mucous membrane lining the nostrils and windpipe. In this case the horse generally falls off in flesh and strength, the coat becomes dry and rough, and the skin sticks close to the ribs. The horse has commonly a tolerable appetite. There is a discharge of matter from the nostrils, and a swelling of the glands under the jaw. As the disease proceeds, tubercles are formed in the lungs, and the mesenteric glands become enlarged.

The tubercles gradually increase in size, at length are inflamed and suppurate, the lacteals are completely obstructed, and the animal dies. (See *Consumption*.) This is usually the progress and termination of the disease when the animal is neglected, or often exposed to the cause which originally produced the complaint. There is often considerable difficulty in distinguishing the earlier stages of this disorder from glanders. In one circumstance, however, there is a material difference. The former has never been known, I believe, to be communicated to other horses standing and feeding with the patient; whereas it is a well established fact that glanders are contagious, as will be presently shown. This circumstance led me in a former publication (see vol. iii. *Veterinary Medicine*, p. 40.) to propose a *test* for distinguishing glanders from other diseases. Since that time I have given it a further trial, and the result has fully confirmed what was there said of it. The best mode, perhaps, of explaining this subject will be to relate the last case in which it was employed. March 23, 1816, I was desired to examine a mare that was said to have the strangles coming on: there was a considerable enlargement of the gland on one side of the under jaw, and a small discharge of matter from the corresponding nostril. The proprietor was informed that it was very unlike strangles, as there was neither cough nor dulness of the eyes; in short the mare appeared to be in perfect health and in good condition. The swelling was blistered and some medicine given. About a fortnight after this I found the mare precisely in the same state; but about a week before I found that a pony, which stood next the mare, had had a discharge from the nostril and a swelling under the jaw for some time; but here the gland was not much enlarged, the discharge was inconsiderable, and he was in perfect health and con-

dition. I discovered also, that the proprietor of these horses had lost a horse from glanders about twelve months before, but the place where this occurred was at a considerable distance from his present residence; and no kind of communication was known to have taken place between that horse and those now affected. Another week elapsed, and no alteration was observed. The proprietor became anxious to ascertain whether it was glanders or not, as he was determined to destroy them if it proved to be that disease. As the mare was of considerable value, I proposed the *test*, which was assented to; and a healthy young ass about two years old was purchased for the purpose: a little of the hair, about the middle of the ass's neck, was cut off on both sides, so as to leave a bare space about the size of a dollar. A small lancet was then introduced under the cuticle from above downward, but so as to cause a few drops of blood to appear; the same was done on the other side the neck. Some matter was then taken from the mare's nose and introduced by means of a small thin slip of wood, about the size and form of the lancet, into the orifice on the right side of the neck. Some matter was then taken from the pony's nose, and inserted with a fresh slip of wood into the orifice on the left side. The ass had no communication with the suspected horses, but was kept in a different stable, and had a clean bucket to drink from. Two days after the operation the inoculated part on both sides was swollen and very tender: the next day the swelling was found to have increased considerably, and corded veins, (lymphatics, see *Farcy*,) as farriers term them, were seen proceeding from the inoculated parts, on both sides. The scabs being removed, the inoculated parts were found to have become large foul ulcers of a peculiar appearance; these gradually spread. Small tumours resembling farcy buds appeared on

the corded lymphatics; these burst and became foul ulcers. About a week after the operation a discharge was observed from the left nostril, and two or three days after the glands under the jaw on the same side were a little swollen. The discharge from the left nostril and the swelling of the glands gradually increased, and in little more than a fortnight the animal was decidedly glandered. There was not the least discharge from the right nostril, nor were the glands on that side affected. The ass was now destroyed. The membrane lining the partition of the nostrils on the left side was much ulcerated; on the right side there were no ulcers, but the membrane appeared redder than usual. There was a small quantity of matter in the left frontal sinus, and the honey-comb process of the ethmoid bone was highly inflamed. On the right side these parts were healthy. On passing the hand over the surface of the lungs, small tubercles were felt. The ass fed and drank well to the last; but the ulcers had spread considerably. In this case the constitution was more speedily affected than we generally find it to be. In some instances a month has elapsed, and in one case it was two months nearly, before the horse was decidedly glandered. A young ass appears to be the best subject for the experiment, being more readily affected than a horse. That glanders are a contagious disease, is, I believe, universally admitted by those who have duly investigated the subject. But Mr. Coleman, and many eminent practitioners, are of opinion, that it is often produced by other causes than contagion; particularly by sudden changes of temperature, and confinement in close stables. It must be admitted that glanders have often occurred, when it cannot be ascertained that the horse has any time been exposed to contagion; but it should be recollected, that he may have been inadvertently so ex-

posed, that is, he may have been fed in the same stall, and been watered from the same bucket, which had before been used for a glandered horse; and it is an established fact, that a considerable time may elapse after the reception of the poison, before the glanderous symptoms make their appearance. When a sound horse was put into the glandered teams, I have several times noticed the length of time he remained free from the disease. The shortest time I recollect was between two and three weeks; more commonly it was from one month to two, and in some instances they have escaped it altogether. The last sound horse that was sent to the glandered team was about twenty years old, but of a hardy constitution. I have frequently examined him; and though he had, when I last saw him, been more than six months working and feeding with glandered horses, and drinking out of the same trough, he had not the slightest symptom of the disease. As to the manner in which glanders are communicated, there have been various opinions: I have proved, however, that it is not by any invisible vapours or effluvia that escape from the diseased horse, or by the glanderous matter being applied to the nostril, an opinion that very generally prevails. I have not, it is true, obtained any direct or positive proof from my experiments, that it is by swallowing glanderous matter the disease is communicated; yet there appears to be no other way in which it can be accounted for. According to Mr. St. Bel, the first professor of the veterinary college, "the virus (glanderous matter) mixed with a little flour, given to three horses for the space of a week, communicated the disease to the youngest in the space of a month; the two others did not sicken till some time after." I observed in the third volume of my *Treatise on Veterinary Medicine*, published nearly five years ago, "after having paid considerable at-

tention to the subject, I have not been so fortunate as to discover a remedy for glanders; nor has it ever come to my knowledge, that any other practitioner has been more successful. Mr. Coleman has devoted much time and attention to the subject; I believe he has tried without success every method and medicine that he himself could devise, or that could be suggested by others. Many other practitioners have been no less industrious, and equally unsuccessful. With such authorities as these, I think no one will hesitate in admitting that the glanders have hitherto proved incurable." Since that time I have continued my attention to the subject, but have found no reason for altering my opinion. I have certainly heard of some *infallible remedies*, and have read a book, the professed object of which is to show, that glanders are not, as Mr. Coleman teaches, a disease "highly infectious," (Mr. Coleman says the disease is contagious, that is, propagated by contact,) "and to rescue from neglect and premature death a valuable animal, which in all probability under proper treatment might be preserved." This book contains *eight* prescriptions for glanders. The efficient medicines they contain have been repeatedly and unsuccessfully tried many years ago. In the first we have two or three drams of sulphat of copper (blue vitriol): in the second there is an addition of half a dram of calomel: in the third one dram of calomel and half a dram of opium: in the fourth one scruple or half a dram of sublimate and one dram of opium: in the fifth half a dram or a dram of Ethiop's mineral (the usual dose is about an ounce) and half a dram of opium: in the sixth one dram of white arsenic and half an ounce of assafoetida: in the seventh two drams of arsenic, six drams of columbo root, and half a dram of opium: in the eighth two drams of sulphat of iron (salt of steel), one ounce of bark, and half a

dram of opium. *Qui vult, &c.* From what has been said on this subject it may be inferred, that the most effectual mode of prevention consists in separating a suspected horse from others; and being particularly careful, that sound horses have no possible opportunity of swallowing glanderous matter, which may be dropped upon hay or corn, upon the litter, or in a trough of water, or upon the manger, or parts of the stable which horses sometimes are apt to lick. The most effectual method of purifying a glandered stable is to cleanse it thoroughly, and fumigate it. (See *Fumigation*.) A more particular account of glanders may be found in the third volume of *Veterinary Medicine*.

GLAUBER'S SALT, *Sulphat of Soda*. This is an inconvenient purgative for horses, on account of the large quantity that is required to produce any considerable effect. The best mode of giving it, is to dissolve about a pound and a half in a pail of water, and allow the horse no other liquid until he has drunk it; which he will generally do in the course of a day. Cattle are purged by a smaller quantity than horses; the dose for a cow is from twelve to sixteen ounces dissolved in gruel.

GLEET. A mucous discharge from the urethra, vagina, or nostrils.

GLOTTIS. The chink or narrow part of the larynx or top of the windpipe: so great is the sensibility of this part, that if a single grain of oats happen to fall into the larynx, an accident that sometimes happens, the most painful and distressing symptoms are produced, and unless the extraneous matter be expelled by coughing, or removed by an operation, a fatal inflammation will be the consequence. See *Bronchotomy*, and *Choaking*.

GLYSTERS. See *Clysters*.

GORGED. See *Blown*.

GRAINS OF PARADISE. A warm pungent seed often used with other aromatics in cordial drenches or balls.

GRAPES. Excrescences about the horse's heels in consequence of severe and ill-treated grease. See *Grease*.

GRAVELLING. A bruise in the foot from gravel being lodged between the shoe and sole; this most commonly happens near the heels, and particularly to horses that have corns. The shoe is to be taken off, and the horn covering the bruised part pared away carefully, so that when the shoe is put on again, the tender part may not receive any pressure. The same object may often be accomplished merely by hollowing the shoe. Should matter form, the horn must be pared away so as to give it free vent, and the part afterwards dressed with a solution of blue vitriol or Friar's balsam. When the bruised part is very tender and inflamed, a poultice should be applied.

GREASE. An inflammation and swelling of the horse's heels, sometimes extending upwards, even to the knee or hock joint. On examining the part, it will be very hot and tender. These symptoms are soon followed by a discharge of stinking matter from the heels. The disease most commonly attacks the hind-legs, but the fore-legs also are liable to it. The animal appears to suffer considerable pain, and when first moved he suddenly catches up the affected leg (when it is the hind-leg) as if he were cramped, and keeps it in that position a short time, hopping about, when forced to move, upon the opposite leg. This he often does also when both hind-legs are affected, drawing up that which is most painful. Grease is generally a local disease; but it sometimes appears to depend on general or constitutional derangement. Grease is produced by various causes: it is usually ascribed to a foul habit of body; and bleeding, purg-

ing, and rowelling, are the remedies commonly employed; but Mr. R. Lawrence very justly observes, that this mode of treatment is not always attended with success, and he considers debility in the system to be generally the original cause of grease, though other circumstances may concur in its production. Debility, he observes, may arise from directly opposite causes, viz. repletion and exhaustion. The healthy state of all animals is constituted by a due and regular circulation of the blood, and a uniform maintenance of the natural evacuations of the body. Whatever disturbs any of these functions will produce debility. In a full plethoric habit, the vessels which are appropriated for the circulation of the blood become oppressed by being overloaded, and are thus rendered incapable of performing their office; hence debility takes place, and the legs, (particularly the hind-legs,) which by their situation are most remote from the centre of circulation, and through which the blood has to return in opposition to its own gravity, become swelled for want of the accustomed absorption. On the other hand, when the horse is lean and emaciated, either from a want of a sufficient quantity of nutritive food, or from excessive labour, the circulation of the blood will be languid from a deficiency of stimulus, and debility will naturally ensue. In addition to either of the above-mentioned causes he thinks the following may be given as collateral promoters of the disease; viz. the season of the year, unnatural confinement in the stable, the acclivity of the pavement of the stall, cutting the hair off the heels, and want of proper exercise and cleaning. In the winter season, at which period the grease is most prevalent, the insensible perspiration of the body is neither so regular nor so profuse as in the summer; but nature generally provides against this decrease by increasing the discharge of urine, and

the expiration of vapour from the lungs; and this mode of expulsion would be fully sufficient for the purposes of the animal economy, if the horse remained in a state of nature. But it is far different with him in a domesticated state, in which he is alternately exposed to a cold and warm atmosphere, as he is within and without the stable. The secretion and evacuation of urine are disturbed in their process by forcing him to proceed in his labour at the moment when the fullness of the bladder stimulates him to discharge its contents; and though the perspiration may be increased to an excessive degree by exercise, yet it will be found, that the result of excessive labour and perspiration will be a proportionate debility; whereas the insensible perspiration is a tranquil and imperceptible evacuation, carried on without putting nature to the expense of any corporeal powers. The bad effects arising from the foregoing causes are considerably aggravated by confinement to one situation, probably eighteen hours out of the twenty-four. The pavement of the stall being on an ascent will throw three fourths of the weight of the body on the hind legs, and will also distress them by the toe being placed upon higher ground than the heel, whereby the ligaments and membranes are kept constantly distended. Under these unfavourable circumstances the legs swell, a rupture of the skin eventually takes place, and a serous discharge ensues, which by exposure to the atmosphere acquires a fetid and acrimonious quality. As the disease advances, the part affected becomes extremely sore and irritable, so as to give excessive pain to the animal when he moves the limb; at the same time the excoriation spreads, destroys the roots of the hair, and creates a chancreous or pustulous induration of the skin, understood in farriery by the appellation of Grapes. I have been induced to give Mr.

Lawrence's explanation at some length, because it appears to possess the merit of being ingenious and original. According to Mr. Feron, grease is often produced by sudden changes from cold to heat. "If," says he, "a colt is taken from grass and immediately kept in a warm stable after having been used to the severity of the atmosphere, he then gets the disorder. When old horses are troubled with the grease, we shall find that their feet have been exposed first to cold and afterwards to heat, as when they have been in cold water or snow for some time, and on coming into the stable have a large bed of straw or perhaps hot dung to stand upon. This sudden transition from cold to heat produces a weakness of the legs, particularly in the skin; when inflammation and cracks, similar to chilblains in the human subject, take place, and are called the grease in horses." The cause to which Mr. Feron ascribes grease is certainly a very common one; and it cannot be disputed, that grease may take place under two very different states of the body, viz. general weakness from excessive exertion, aided by local causes, and plethora from over feeding and insufficient exercise; and it is probable, that the declivity or slope of the ground, on which the horse stands, may, by throwing an undue proportion of his weight on the hind-legs, contribute to the production of the disease. If a horse when attacked with grease is in good or decent condition, has no appearance of weakness, and particularly if the pain and inflammation are considerable, bleeding is certainly proper; and after cleaning the affected parts, a large saturnine poultice (see *Poultice*) should be applied. If the horse is in any degree costive, a mild purgative should be given; if not, I would rather advise the use of mild diuretics, in the form either of balls or powders. When the poultice has been properly applied

for a few days, the inflammation will generally be lessened considerably, and then some mild astringent lotion may be useful, as a solution of alum, either alone or mixed with white vitriol, or sugar of lead, vinegar, and water. In confirmed or inveterate cases of grease, where the hair about the affected parts stands erect, and the matter which is discharged appears somewhat like dark coloured or dirty water, and has a peculiar fetid smell; and when the animal at the same time seems to suffer great pain, suddenly drawing up the leg as if it were seized with spasm when he attempts to move; I have found the following lotions speedily effect a cure, after emollient poultices and fomentations had been tried without affording any relief. I wish to observe, however, that it may be prudent to try the effect of emollient or soothing applications before the lotions are resorted to. In vol. iii. p. 231, of the *Veterinary Medicine*, two cases are described, in which the lotions speedily and completely succeeded.

Lotion No 1.

Corrosive sublimate, two drams;

Muriatic acid, four drams;

Water, one pint.

In one case that has since occurred, some blue vitriol was added, and it appeared to have a good effect. As grease seldom occurs in a well managed stable, it is but reasonable to infer, that it is generally produced either by negligence or improper treatment. Watering a horse at a pond or river, or washing the legs in winter, certainly contributes to its production. Painful ulcers or cracks in the heels are sometimes a consequence of grease; these should at first be poulticed, and afterwards dressed with some astringent. Should fungous excrescences or grapes arise in the heels, they may either be destroyed by means of caustic, or cut off with a knife: the part is after-

wards either to be dressed with some mild caustic or escharotic, or seared with a hot iron. The strictest attention to diet, regimen, and cleanliness must be observed during the whole treatment of grease, and gentle exercise must be persisted in. The best diet on these occasions will be cut grass, clover, lucerne, vetches, or carrots, or sweet hay and bran mashes, with a moderate quantity of corn if the horse appears weak. He should not be tied up in the stall, but stand loose while in the stable, or be turned out in some dry paddock or field during the day, when the weather is favourable. The stable should be kept perfectly clean and well aired, but not too warm. The best means of preventing grease is to give the horse regular exercise, with a proportionate quantity of good oats and sweet hay, to dress him well, and especially to keep his legs and heels dry and clean, and to avoid the extremes of heat and cold. See *Stable Management*, and *Cracks*.

GRIPES. See *Colic*.

GRISTLE. See *Cartilage*.

GROGGINESS. A horse is said to be groggy, when he has a tenderness or stiffness about the feet from hard trotting upon the road, which causes him to go in an uneasy hobbling manner, particularly when made to trot gently down a hill without any support from the bridle. Such horses however, by means of a sharp bit and spurs, will often trot out with great boldness, and appear quite sound in their feet.

GROUND-IVY. Gibson says the dried leaves are an excellent ingredient in pectoral balls. I believe it is an innocent medicine, but of little or no use in veterinary practice.

GUAIACUM. The bark, the wood, and a resinous gum of guaiacum are used in medicine. The last is prescribed, by Gibson and other old authors, in farcy and other cutaneous diseases; at present it is seldom used.

GULLET, or ŒSOPHAGUS. A muscular and membranous tube, which conveys the food, &c. from the mouth to the stomach. The upper part of the gullet is large, and like a funnel soon contracts into a tube, which is of a uniform size from the throat to the stomach. This upper funnel-like cavity is named Pharynx. The gullet passes down the neck behind the windpipe, but inclining a little to the left side. It penetrates the chest between the layers of the mediastinum; and continues in a similar direction along the dorsal vertebræ or back-bones, passing through an opening in the diaphragm, and terminating in the stomach. The gullet is composed of three coats; an outer cellular one, a muscular, and a cuticular coat. The middle or muscular coat has its fibres so arranged as to facilitate the passage of the food &c. to the stomach; they are also possessed of considerable strength, which is the more necessary in the horse on account of its length, and his being obliged in a state of nature to swallow food and water in opposition to gravity. The inner or cuticular coat is but loosely connected with the muscular; for, as this coat has but little elastic power, and the distention of the muscular coat is considerable in the act of swallowing, this coat is wrinkled into folds in a state of rest, whereby, when the muscular expands, the cuticular coat can open so as to allow the passage of the food, and prevent the too great expansion of the tube. The cuticular coat is continued into the stomach, nearly one half of which it covers.

GUMS are of various kinds; the name, indeed, is often improperly applied. The only gums to be noticed here are such as are soluble in water only; these are the gums which exude from certain trees, as gum arabic, gum senegal, gum tragacanth, and the gum of the cherry and plum tree. They differ but little in their medical properties, and may be em-

ployed promiscuously in the composition of emollient drenches for bowel complaint, irritability of the bladder, &c.

GUNSHOT WOUNDS. See *Wounds*.

GUTTA SERENA. See *Eye*.

H.

HÆMORRHAGE. A flow of blood from any part of the body in consequence of an artery or vein being wounded or having burst. Hæmorrhage from external injury is most readily stopped by taking up the bleeding vessel and tying it; but when this cannot be done, the bleeding may generally be stopped by pressure, that is, by placing bolsters of linen or tow upon the wound, and binding them firmly down. Preparations named Styptics are sometimes employed for this purpose, and in internal hæmorrhages it is the only one we can obtain. See *Styptics*.

HALTER CAST. Horses that are allowed too long a halter sometimes entangle their legs in it, generally getting it under the fetlock, so as to bruise, wound, or excoriate the pastern. In severe injuries of this kind, the part should be poulticed at first; and when the inflammation has abated, if there be a wound, it is to be washed with some astringent lotion, as a solution of sugar of lead or alum, and if it becomes hard and dry, the following liniment may be applied:

Olive oil, two ounces;

Goulard's extract, three or four drams.—Let them be well shaken.

In slight injuries, the astringent lotion will generally be sufficient for the cure.

HALTING. See *Lameness*.

HAND. A measure of four inches.

HARNES GALLS. See *Galls*.

HAW. See *Eye, Structure of*.

HEART. The heart is a powerful hollow muscle contained in the chest. From certain parts of it the arteries arise, in others the veins terminate, and it is principally by its alternate contractions and expansions that the circulation of the blood is carried on. The heart is invested with a membranous covering or bag, termed Pericardium, vulgarly Heart-bag: they are not in contact with each other, for even in the healthy state there is a small quantity of fluid interposed between them, said to be about one ounce. In dropsical affections, particularly in dropsy of the chest, the quantity of this fluid is considerably increased, and constitutes the disease named Dropsy of the Heart. (See *Bleeding*, where a case is described.) The heart is divided into two cavities termed ventricles. The left ventricle is smaller than the right, but its sides are much thicker and stronger: it is from this part that the grand trunk of the arteries proceeds, and it is by the contraction of the left ventricle, assisted by that of the arteries, that the blood is propelled and distributed all over the body. The right cavity or ventricle is the receptacle for the blood that has been thus distributed, which is brought back to it by the veins, (See *Veins and Arteries*,) which, like an inverted tree, become larger and less numerous as they approach the grand fountain the heart, near which they form two large trunks, which terminate in a sac attached to the ventricle at its base, and from its resemblance to an ear named Auricle. Both ventricles have this kind of appendage, which receive the blood at its entrance, and prevent its rushing into the ventricle with too much violence, by which the regular action of the heart might be interrupted. The small sac or auricle, which is connected with the left side of

the heart, receives the blood that has been distributed through the lungs. Where the veins terminate in the auricles, there are valves placed, which open only towards the ventricles, by which the blood is prevented from taking a retrograde course; the same contrivance is found between the auricles and the ventricles, and between the ventricles and the arteries. These valves have their respective names; thus in one part they are called semilunar, from a resemblance to a half moon, and in another mitral, from their resemblance to a mitre, and so with the rest. The utility of these valves will be readily conceived, when it is considered that a contraction of the ventricles would as easily force the blood backward into the auricles, as forwards into its proper vessels, without such a contrivance. Having given this brief description of the heart, the reader will be enabled to comprehend the manner in which the blood circulates through the body. It may be explained, indeed, in very few words. When the left ventricle of the heart is full of blood, its muscular fibres are stimulated to contraction, so as to propel the blood into the arteries; these also have a contractile power, upon which their pulsation depends, by which the blood is still impelled forward until it reaches the extremities of the veins. When arrived at this point, the blood seems to have given out, or imparted to the body, all its essential or useful qualities with some exception. (See *Liver*.) From these minute and invisible extremities, the veins, like an inverted tree, become less numerous and larger as they approach the heart, and at length terminate, as has been before observed, in the right auricle, whence the blood is propelled into the corresponding ventricle. In this cavity it is found to have undergone a considerable change: in the left ventricle it was of a bright scarlet colour, and replete with

those qualities by which the various organs of the body are enabled to perform their respective functions; but when returned by the veins to the right side of the heart, it is exhausted, and requires a fresh supply of those essential qualities before it is fit for another circulation. For this purpose the blood is propelled from the right ventricle into the pulmonary artery, which, dividing into innumerable branches, distributes it through the lungs. Here it reacquires some of the essential properties it had imparted to the system in its course through the arteries, and returns by the pulmonary veins to the left auricle, and thence to the left ventricle of a bright scarlet colour. There is another, and a very important source of renovation to be noticed. The blood, in its return through the veins, receives a supply of chyle, or the essential parts of the food, when it arrives near the heart. See *Chyle, Lactals, Nutrition, and Respiration.*

HELLEBORE ROOT. White hellebore has been employed as an ingredient in blisters, but may very well be dispensed with. A decoction of hellebore, mixed with a small proportion of corrosive sublimate, has been found useful in some cutaneous complaints. As an internal remedy, it has scarcely been employed: it has been said to possess qualities peculiarly deleterious to horses; I have given it, however, in the course of my experiments on glandered horses, to the extent of an ounce, without producing any alarming symptoms. See vol. iii. *Veterinary Medicine*, p. 67. and vol ii. last edition.

HEMLOCK. The extract or inspissated juice, and a powder from the dried leaves, are employed in human medicine; also a decoction for fomenting cancerous and other painful ulcers. In the latter form it may be useful in veterinary practice; but as an internal remedy it is probable, that opium will, on

all occasions, be found preferable: it deserves, however, a farther trial.

HEREDITARY DISEASES are such as are transmitted by parents to their offspring. In horses, ophthalmia is said to be sometimes thus produced. See *Eye, Diseases of*.

HERNIA. See *Rupture*.

HIDE-BOUND. When the horse's skin is unusually tight about the body, he is said to be hide-bound; the coat at the same time generally appears rough and dry. This tightness of the skin is often the effect of hard work and want of sufficient nourishment; it also commonly attends lingering diseases, and must therefore be considered rather as a symptom of disease than as a disease itself. The best remedies are a light and nourishing diet, as pollard (a better kind of bran than that commonly sold) and oats made into a mash, or malt-mashes, carrots, lucerne, or vetches. If the horse's dung smell offensively, it will be proper to begin with a mild purgative. Should there be any want of appetite after the operation of the purgative, tonic medicines are to be given, or the cordial, mixed with two drams of cascarilla bark. The water he drinks should be at the summer temperature. By these means, aided by regular exercise, good grooming, and moderately warm clothing, the skin will soon become loose and glossy again.

HERA PICRA. A mixture of aloes and spices is so named in the old dispensatories. An aloetic powder is now substituted for this composition, which consists only of two ingredients, aloes and canella; one pound of the former to three ounces of the latter.

HIP-SHOT. This is known by one of the hips or haunches being lower than the other. It generally depends upon a fracture of the *os innominatum*, or small

part of the hip-bone ; which, if the lameness is not considerable, may have occurred at some former period, the fractured part having formed an irregular kind of union, so that the bone on that side is shorter than the other.

HOCK or HOUGH. The horse's hock is composed of six bones, so intimately united as to appear but one. These bones are so united, as to allow scarcely any motion between them, but that little is useful in preventing jar and concussion. The human heel and ankle, with which this joint corresponds, has seven bones ; the additional bone is named Navicula. In man this part is arched below to give more firmness and spring. The point of the human heel corresponds with the point of the hock in horses. The most important of the hock-bones is the astragalus. Its upper and anterior surface resembles a pulley, having remarkable circular ridges with an intermediate circular cavity. This bone and the tibia, or that which rests upon it, are allowed, by this kind of structure, an extensive degree of motion. The calcaneum, os calcis, or heel-bone, forms the projecting part of the hock. Into the upper and back part of this bone, the principal tendon, named Tendo Achillis, is inserted. The horse's hock is a part that is much exposed to injury ; particularly in horses that are thrown much on their haunches, or are employed much in leaping. Young horses are more liable to injuries in this part than old ones, particularly such as are cat-hammed, or have their hocks inclining inward, hence arise spavins, curbs, &c. The hock is an important joint, affording a considerable mechanical advantage to the muscles of the tendo Achillis.

HONEY is sometimes used in pectoral balls or drenches.

Hoof. See *Foot*.

HOOF-BOUND. See *Hoof, Contracted*.

HOOF-CASTING. A partial or complete separation of the horse's hoof from the sensitive foot. (See *Foot, Structure of*.) This is generally caused by excessive exertion, or by suddenly cooling the feet with water after they have been much heated by exercise. In some instances, I have known inflammatory fevers terminate in inflammation of one or more of the feet. A few years since, I met with a case of this kind, where the inflammation ran so high, that the whole of the hind foot became mortified, so that it was necessary to destroy the animal. When the inflammation attacked the foot, the general inflammation or fever ceased. Inflammation of the foot sometimes ends in suppuration, or the formation of matter; in this case, there is generally a total casting or separation of the hoof: but it often happens that the sensitive parts retain their power of secreting horn; so that a new hoof is gradually formed. The most usual mode in which the hoof is cast is rather a partial separation. The first appearance is a circular crack or separation all around the coronet; this gradually descends, being pushed forward by the new shoot of horn. At the end of three or four months, it goes down nearly to the lower part of the hoof, and then either breaks off, or may be removed with the drawing-knife. During this process, the fissure between the new and old hoof should be filled with some kind of plaster or wax, so as to prevent gravel or dirt from getting in, and the horse should be kept at grass. When the hoof is cast suddenly and totally, leaving the sensitive foot quite bare, it should be covered with mild digestive ointment, spread on tow; the dressing may be confined, and the foot protected in some measure, by a leather boot.

HOOF, CONTRACTED. This is a very common de-

fect in horses; and though it sometimes takes place under the best management, and even in colts that have never been shod, or taken from a state of nature, it is more commonly the effect of improper treatment. If we cut off the foot of a dead horse, and keep it in a dry but cool airy situation, so that it may not soon become putrid, it will be found to undergo no alteration in its form, though kept a considerable time; but if the contents of the hoof are taken out, which may be done by keeping the foot a few days in hot dung, the hoof will then be found to shrink or contract, particularly if kept in a warm situation, or exposed to the sunshine. This contraction will take place principally at the higher part or coronet and towards the heels; the horn being in these parts most flexible, and having nothing within them to oppose the contractile power. At the lower part or bottom of the crust, there may be the same tendency to contraction; but here the horn is much thicker, and the contractile power is strongly opposed by the bottom of the hoof, that is, the frog, the bars, and the sole. If the bottom of the foot is removed, the heels will then contract rapidly, and in two or three days will not only have approached close to each other, but will be bent or curled inward as represented in vol. iii. plate 3. fig. 2. What then, it may be asked, is it that prevents contraction of the hoof in the living horse, and by what circumstances is the tendency or disposition to contract produced? The hoof, in its healthy state, is pervaded by a fluid, by means of which it is preserved in a flexible and elastic state. If by any means a preternatural degree of heat is excited in the foot, this fluid will be too quickly dissipated; and the supply will be diminished: the horny matter will therefore be disposed to contract or shrink, and the contraction will take

place more or less rapidly, according to the degree in which the disposition to contraction exists, and the resistance that is opposed to it. In the perfect foot, or one that has not been mutilated by the smith, the tendency to contraction is powerfully resisted by the bottom of the hoof, consisting, as before observed, of the sole, bars, and frog; as well as by the coffin-bone, and other parts which it incloses, and by which it is completely filled. Unless the contractile disposition is considerable, the resistance thus afforded is often sufficient to prevent contraction; but when the bars are destroyed, the frog mutilated, the shoes made and applied improperly, and the horse made to stand great part of his time on litter, contraction will often take place; for though the internal or sensitive foot forms a strong resisting power, the pressure it sustains causes a gradual absorption to take place, and the contraction will proceed as the resisting medium is thus removed. Various mechanical contrivances have been suggested for the prevention and cure of contraction, which will be described under the head *Shoeing and Management of the Foot*; and the reader may find a more particular explanation of this subject in the author's third volume, p. 125.

HOOSE. A term to be found only in the nosology of *Cow Doctors*. It signifies a cough, either chronic or acute, which cattle are affected with from exposure to cold winds or rain. The treatment consists in bleeding, if there be any symptoms of fever, as quick pulse, and redness of the under surface of the eye-lid, and particularly if the breathing is disturbed; and if the animal is costive, in giving some opening medicine. A moderate degree of warmth, which may be obtained by bringing the animal under cover, and giving warm mashes, is also neces-

sary. In obstinate coughs the following drench may be given, but careful nursing will generally be found sufficient to remove the complaint:

Honey, four ounces;

Vinegar, six ounces:

mix them over a slow fire, and take off the scum which rises on the surface: add to this four ounces of linseed oil, and give it as a drench twice a day. If the cough is not perceptibly lessened, by taking two or three doses, the medicine should be discontinued. If the owner of the beast is not satisfied in trusting afterwards to nursing and shelter from the inclemency of the weather, he may try Dr. Clater's curious and potent recipe, the ingredients of which amount to about one pound in weight, beside a quart of warm ale or gruel; and, if the latter be used, a wine glass of gin or brandy must be added.

Recipe:—

Balsam of sulphur, two ounces;

Barbadoes tar, one ounce;

The yolks of two eggs;

Ginger,

Aniseed,

Cummin seeds,

Elecampane root,

Grains of Paradise, and

Liquorice root,

Salt of tartar, half an ounce;

Honey, four ounces.

} of each, in powder,
one ounce;

HOREHOUND. A bitter herb, supposed to be useful in coughs and asthmatic complaints of the human subject, but seldom employed in farriery. An infusion or decoction of horehound may serve as a vehicle for more active medicines.

HOVEN. See *Blown*.

HUMOURS. By this term is meant some noxious matter, which, it is supposed, is sometimes mixed

with the blood, and occasionally deposited in some particular part of the body, causing inflammation and swelling. Thus, if a horse's legs swell, a humour is said to have fallen down or into them. This doctrine, or humoral pathology, has been exploded from human medicine.

HYDATID. A very singular animal, formed like a bladder, and distended with a watery fluid. These animals are sometimes formed in the natural cavities of the body, as the abdomen and ventricles of the brain, but more frequently in the liver, kidneys, and lungs. They are often found in the head of sheep: the disease they produce, when thus situate, is commonly named *Gid*, *Sturdy*, *Goggles*, &c. See *Brain*, *Dropsy of*; and *Gid*.

HYDROCELE. Dropsy of the sac which contains the testicle. A disease that rarely occurs in horses in any degree worth noticing. It may accompany, however, the ascites or dropsy of the abdomen, as in the horse these cavities (the sac of the testicle and abdomen) communicate with each other. In such cases, an opening may be made in the lower part of the scrotum, of sufficient size to allow the water to run off.

HYDROPHOBIA, or CANINE MADNESS. A dreadful disorder to which dogs are peculiarly liable. When it appears in these animals spontaneously, it has not been ascertained precisely on what cause it depends; but it is well known, that they can communicate the disease to other animals by biting them. According to Mr. Hopkinson, a medical gentleman, who had an opportunity of seeing several cases of canine madness that happened in earl Fitzwilliam's hounds, the symptom which distinguishes the disorder is in general a loathing of food; although this is not universal, as they will sometimes eat solid food, and refuse liquids. In one dog, the first symptom

was eating his own excrement, when food stood by him: five days after the dog died raving mad. At the commencement of the disorder, Mr. H. observes, the mad dog has a peculiar tendency, if loose, to lick and smell the penis and fundament of another dog; this, he says, should be looked upon as a very suspicious symptom, and the huntsman considered it as almost a never-failing one. There seems, for the first two or three days, to be intervals of sense; and during that time they usually recognize their master, and the eyes look clear and well; but if the dog is loose at this time, he will in general bite every thing he meets. He will sometimes, during this stage of the disease, leave his home for several hours, spread the disorder by biting men and beasts, and return home again. The mad dog, when confined, seldom survives the fifth day from the first attack: if suffered to run about, his death appears to be hastened. There does not appear to be any dread of water at any period of the disease: a mad dog will often lap milk or water, and has been seen to swim a large river; but he is generally incapable of swallowing in the advanced stage of the complaint. It is a common opinion, that when a dog is bitten, a few weeks' confinement, sea-bathing, or the popular nostrums, are sufficient to prevent his taking the disease and spreading its mischievous effects; but in the case of lord Fitzwilliam's hounds, it was proved, that there is no security after six months. According to Mr. Meynell, an unusual disposition to quarrel with other dogs is a certain sign of beginning madness. No remedy has hitherto been discovered for this disease, and the only effectual mode of prevention is to cut out the bitten part. Mr. Daniel considers worming a useful operation, and thinks if a dog becomes mad afterwards he is incapable of biting.

HYDROCEPHALUS. See *Brain, Dropsy of.*

HYDROTHORAX. See *Dropsy of the Chest*.

HYOSCIAMUS. Henbane, a narcotic plant not used in farriery.

HYPERICUM. St. John's wort, a plant sometimes prescribed by old farriers, but rarely employed by modern practitioners.

I.

ICHOR. A thin, watery, and acrid discharge from ulcers, &c.

ICTERUS. See *Jaundice*.

ILEUM. The lower part of the small intestines.

ILIUM. The anatomical name of the haunch or hip-bone.

IMPOSTHUME. See *Abscess*.

INCONTINENCE OF URINE. An involuntary discharge of urine, which generally is constantly passing off in drops. Small doses of tincture of cantharides have been given with advantage in this complaint, and blistering the loins and rump is said to be efficacious.

INFLAMMATION EXTERNAL. This generally is produced by wounds, bruises, strains, or other accidents. Sometimes it arises from plethora or general fulness, from over-feeding and insufficient exercise: it may be brought on also by having the perspiration suddenly checked, or by making the horse stand in very cold water, and immediately after on warm litter. Sometimes it takes place without any known cause. The treatment of inflammation depends, in a great measure, on the degree or extent of the injury, its situation, and the condition or state of the animal. The usual remedies are bleeding, both general and local, opening and cooling medicines, or diuretics, fomentations, cold lotions, &c. See *Wounds; Bruises;*

Strains; Eye, Diseases of; Grease; Swelling of the Legs.

INFLAMMATION GENERAL. See *Fever, Inflammatory.*

INFLAMMATION INTERNAL. Inflammation rarely, perhaps never, attacks all the internal parts at the same time; it is usually confined to the contents, or some part of the contents, of one of the cavities of the body, either the skull, the thorax, the abdomen, or the pelvis. Internal inflammation is a highly dangerous disorder, and unless a proper mode of treatment is adopted at its commencement, often proves fatal. Inflammation has several modes of termination, the most desirable of which is resolution; by this the gradual subsidence or disappearance of the disease is effected. The second mode is by effusion, either of lymph or serum; upon this depends the callous swelling that often remains after the inflammation has ceased, which consists of hardened lymph; as in strains of the back, sinews, &c. Dropsy of the chest or abdomen is caused by an effusion of serum into these cavities. The third termination is in suppuration, or the formation of matter; and the fourth is gangrene, or mortification. Particular inflammations are noticed under the names of the parts which they affect. See *Lungs, Liver, &c.*

INFLUENZA, epidemic catarrh, or distemper. This disease differs from common catarrh or cold, in attacking generally with greater violence, in being attended more commonly with fever, and in being propagated by contagion: this, however, has been doubted; and its attacking so many horses nearly at the same time has been thought to depend rather on some peculiar state of the atmosphere. It is more prevalent in the spring than at other seasons, especially after a mild winter. The symptoms of influenza are, a troublesome cough, heavy and dull

appearance, loss of appetite, and quick pulse. Soon after, a discharge from the nostrils takes place, sometimes attended with a painful swelling under the jaw, similar to that which constitutes strangles. Severe cases generally begin with shivering and disturbed breathing; the discharge from the nostrils is copious, and the throat is often so inflamed as to render swallowing painful and difficult. In those violent attacks of influenza, the animal soon becomes very weak; and when such cases have been neglected or improperly treated, it often terminates in consumption. In this stage, the disease resembles virulent glanders. As to the treatment of influenza, I am convinced that copious bleeding at its commencement is the essential remedy; and that if the inflammatory symptoms do not abate soon after, or in about six hours, the operation should be repeated. Most authors have laid great stress on the weakness and emaciation which often attend this disease, and have therefore been rather too fearful in regard to bleeding and other evacuations. I am of opinion, that such weakness would not take place, if the horse were plentifully bled, and in other respects properly treated, at the commencement of the disorder. I think it may be safely laid down as an axiom or general rule, that, if at any period of influenza the pulse is much quicker than usual, (see *Pulse*,) the breathing in any degree disturbed, the appetite bad, and the conjunctive membrane of the eye (see *Eye*) redder than we commonly see it, bleeding plentifully is proper; or if any doubt be felt as to its propriety, let the practitioner take only a small quantity, and if he finds it sizey or covered with a thick coat of buff when coagulated, he may safely conclude that copious bleeding is necessary. If the animal is in any degree costive, some laxative medicine should be given; if not, I consider mild diuretics more useful.

The following is, perhaps, as good a formula as any:

Nitre, six drams;

Powdered resin, half an ounce;

Tartarized antimony, two drams.—Mix for one dose, to be given once in twelve hours.

The horse's drink should consist principally of gruel or oatmeal, mixed with warm water; for though bleeding is so essential a part of the treatment, a moderately nourishing diet is also necessary. Should difficulty in swallowing occur, let the throat be blistered; and if a swelling take place under the jaws, suppuration should be encouraged by fomentation and poultice. The head should be kept warm by means of a hood, and the nostrils steamed, (see *Steaming*) several times a day. Moderate exercise is useful, but cold wind and rain should be carefully avoided. Close filthy stables are very injurious. See vol. iv. of *Veterinary Medicine*, p. 151.

INFUSION. This consists in pouring water, generally at the boiling heat, on substances, the medicinal properties of which it is capable of extracting. The liquor thus obtained is called an Infusion.

INSPIRATION. The act of drawing air into the lungs. See *Respiration*.

INTEGUMENT. Any common covering of the body, whether skin, muscle, or membranes.

INTERFERING. See *Cutting*.

INTESTINES, or BOWELS. A membranous tube or canal, extending from the stomach to the fundament. They are usually divided into small and large. In the horse, the small intestines are not much larger than those of the human body, but the large intestines are of an immense size. This canal is connected through its whole extent with membranes, termed Mesentery and Mesocolon. The whole length of the intestines is about thirty yards; but they are so con-

voluted, as to have the appearance of distinct parts. The intestines are composed, in a great measure, of muscular fibres, some of which run in a circular and others in a longitudinal direction. When the circular fibres contract, the diameter of the canal is diminished; and when the longitudinal fibres are in action, the canal is shortened; and by the combined action of these fibres the food is gradually propelled through the whole length of the canal. This motion of the intestines is termed peristaltic, and may be distinctly seen in an animal recently killed. The internal surface of the intestines consists of a nervous and vascular membrane, which is constantly forming a mucous substance for its own protection. In some diseases this mucous secretion is so abundant, as to be discharged in considerable quantity with the dung: it is at the same time generally thicker and of a lighter colour than natural, having some resemblance to fat or grease. (See *Molten Grease*.) The external surface of the intestines consists of peritoneum, a membrane from which all the organs of the abdomen derive their external coat. The peritoneum forms also a kind of sac, in which they are all inclosed. The small and large intestines have each three different names applied to certain portions by anatomists. That part which proceeds from the stomach, to about twenty inches, is called Duodenum; at its beginning, or about four or five inches from the stomach, the biliary and pancreatic duct enter. The next portion of intestine is named Jejunum, from being generally found empty, and the third part is termed Ileum. The termination of this intestine in the Cæcum, or first of the large ones, has something peculiar in its structure; there is a looseness of the internal coat at this part, which allows it to be formed into folds; this appears to form nearly a complete valve, preventing, in a great measure, the return of

the fæces into the small intestines. The ileum ends in the posterior part of the abdomen in a very large canal, the cæcum, which it enters abruptly, and does not appear, like the other intestines, merely a continuation, with only a nominal division. The anterior part of the cæcum projects forward between two and three feet, in a kind of large bag closed at the end. It has been supposed, from the peculiar structure of this intestine in the horse, that it serves the office of a second stomach; that the macerated food from the small intestines, mixed with the bile and pancreatic juice, here undergoes some further change. The second of the large intestines is named Colon. It is small at its commencement, but soon after enlarges into a very capacious canal, which, after it has passed nearly round the abdomen, again forms a second but slighter contraction; after which it again enlarges, and passes round the abdomen, when lessening a third time, it terminates in the Rectum. The rectum passes backward from the vertebræ of the loins to the anus. Its muscular coat is thicker than that of the other intestines. The anus or fundament is the termination of the rectum, and is shut by a circular muscle, which surrounds the end of the gut, termed Sphincter; it is likewise elevated and retracted by two pair of muscles. (See *Nutrition, Mesentery, and Lacteal.*) Diseases of the intestines are noticed under the heads *Bowels, inflamed*; and *Colic, flatulent*.

IPECACUANHA. As the horse is incapable of vomiting, this root, so commonly used as an emetic in the human subject, has been seldom employed in veterinary medicine. Some modern authors, however, have prescribed it, particularly Mr. Blaine, in dysentery and fever. In the former disease, he directs,

Opium, two drams;

Nux vomica, one dram;

Red wine, one quart;

Ipecacuanha, half an ounce:

To be given morning and evening. (*See Dysentery.*) It does not appear that the effect of ipecacuanha on the horse has been ascertained, either when given alone, or mixed with opium, &c., as in Dover's powder; but as we know that large doses, even an ounce or more, of emetic tartar, produce little if any effect on the stomach of the horse; though so powerful an emetic in the human subject, there is some reason to doubt the efficacy of ipecacuanha as a horse medicine.

IRON. The preparations of this metal are remarkable for their tonic property. Those usually employed are, sulphat of iron, salt of steel, carbonate of iron, rust of iron, tincture of muriate of iron, red oxide of iron, precipitated oxide of iron, and black oxide of iron.

IRRITABILITY. All muscular parts possess the property of contracting or shrinking when stimulated or irritated, and are therefore endued with irritability, which may either be healthy or morbid. Thus the bladder in its healthy state, when it contains a sufficient quantity of urine, has its muscular fibres irritated or stimulated, in consequence of which they contract, and the urine is forced out. Sometimes the bladder is so morbidly irritable, that it contracts upon the smallest quantity of urine, so that the animal is almost constantly endeavouring to stale, but voids only a very small quantity, and that with an appearance of difficulty and pain.

ISCHURY. *See Urine, Suppression of.*

ITCH. *See Mange; Lice; and Skin, Diseases of.*

IVES. *See Vives.*

J.

JALAP. Though jalap is an efficacious purgative in man, it has so little effect on the horse, even in large doses, that it deserves no place in our *Materia Medica*.

JAUNDICE. See *Yellows*.

JESUIT'S BARK. See *Bark*.

JOINTS. A joint is formed, generally speaking, by the ends or heads of two or more bones; these ends are covered by a layer of cartilage or gristle, which is of a yielding and elastic nature: there is formed, within the joint, a slippery fluid called Synovia or joint-oil. The ends of the bones thus covered with a smooth yielding surface, so slippery as to move freely upon each other, without suffering from friction, are then firmly tied together by a strong inelastic substance named Ligament, which completely surrounds the heads of the bones, as far at least as they are covered with the smooth cartilage. This is termed the Capsular Ligament; it is not so tight as to prevent the necessary motion of the joints, but sufficiently so to hold them firmly in their situation. The capsular ligament possesses but little sensibility on its outer surface, but within is highly sensible and vascular; and it is principally from this inner surface that the synovia or joint-oil appears to be formed. It is from the great sensibility of this inner surface, that such serious inflammation is produced by wounding the capsular ligament, and suffering the synovia to escape. (See *Wounds of Joints*.) In some joints we find an additional ligament within the capsular ligament or cavity: thus, in the hip-joint, there is a strong ligament connecting the head of the thigh-bone with the

socket that receives it. In the stifle, also, there is a strong ligament within the cavity of the joint; and here we find also slippery cartilages interposed between the moving surfaces of the bones, by which their motion is considerably facilitated. See *Ligament*.

JUNIPER BERRIES. These are often prescribed in carminative and diuretic balls and drenches: the dose about two or three ounces. An essential oil is obtained from them by distillation, the dose of which is three or four drams. Oil of turpentine seems to possess nearly the same medicinal qualities, and being considerably cheaper, is generally preferred. See *Turpentine*.

K.

KALI. See *Potash*.

KERMES MINERAL. A preparation of antimony, nearly similar to the golden sulphur of antimony. It is sometimes used as an alterative, either alone or mixed with small doses of calomel. The dose two or three drams.

KERNEL. See *Gland*.

KIDNEYS. These are two glandular bodies, situate in the abdomen. The right is attached to the posterior edge of the liver, and lies under the sixth or seventh rib, the left is rather lower, and usually under the last false rib. The urine is secreted by the kidney, and, when formed, is conveyed by numerous small tubes to a cavity in its centre, named Pelvis: from this cavity, a tube called Ureter proceeds, by which it is conveyed to the bladder. The ureters, in entering the bladder, pass obliquely between its coats; by this contrivance, a complete valve is formed, which prevents the return of the

urine when the bladder contracts. The kidneys of the horse are much more readily affected by diuretics than the human kidneys; and, though an excessive or indiscriminate use of them has often done mischief, I think they may be considered as the most useful class of veterinary medicines, when judiciously employed. Stones are sometimes formed in the pelvis of the kidney, whence they often pass into the ureter, but are seldom found in the bladder; probably from the horizontal position of the animal. The kidneys of the horse are often inflamed, and not unfrequently, I believe, by the immoderate use of diuretics. Sometimes the inflammation proceeds rapidly, producing fever and other distressing symptoms. The animal usually stands with his hind legs stretched out, as in the act of staling; there is a tenderness about the loins which makes him shrink or give way when they are pressed upon: there is a stiffness in the motion of the hind parts, which is sometimes considerable. He frequently attempts to void urine, while only a few drops are expelled, and that with considerable pain and difficulty. This symptom has sometimes led the attendants to suppose, that the bladder is full, and that there is a stoppage of urine; under this idea, diuretics have been given, which generally so aggravate the disease, as to cause the animal's death. But if the state of the bladder be examined, by introducing the hand through the fundament into the rectum, it will be found empty. This complaint is sometimes attended with symptoms of colic, the horse often lying down and rolling; in such cases the inflammation probably has spread to the peritoneal coat of the adjoining bowels. The best remedies for this acute kind of inflammation of the kidneys are plentiful bleeding, emollient clysters, an oily laxative, and covering the loins with a

fresh sheep's skin, the wool side outward. If the disease is attended with a frequent desire to dung, as well as stale, the anodyne clyster should be thrown up; and if this yield no relief, some opium should be given by the mouth. The kidneys are sometimes affected with chronic inflammation. I have several times, in examining horses after death, found one or both kidneys much enlarged, and so tender as to be torn or penetrated by the slightest pressure of the finger. See *Bladder*, *Diabetes*, and *Urine*.

KINO. A powerful astringent. The dose three or four drams.

KNEES BROKEN. See *Wounds*, and *Broken Knees*.

L.

LACTEALS. Slender transparent tubes or vessels, which originate in the small intestines, and convey the chyle or nutritious parts which they receive from the digested food, to the thoracic duct, whence it passes into a large vein near the heart, and mixes with the blood. These vessels have a beautiful appearance in the mesentery when distended with chyle, which, being of a white colour like milk, renders them very conspicuous.

LADANUM. A resinous substance, employed in the composition of warm plasters.

LAMENESS. This is a subject of considerable importance, particularly with respect to horses; as their value is often considerably diminished by it, and not unfrequently they are rendered totally useless. Lameness may be divided into four kinds, viz. of the hoof and parts contained within it; of the muscles; of tendons, ligaments, or parts connected with them;

and of bones. In each of these divisions there are several diseases, which will be noticed in their respective places. See *Strains, Spavins, Ring-bones, Curbs, &c.*

Mr. R. Lawrence observes, that a peculiar-conformation of the limbs renders a horse more subject to lameness of one kind than another. Thus horses with short pasterns, and whose fore legs incline much under the body, are most liable to bony excrescences, such as splent, ring-bones, &c. Horses with long pasterns are more liable to ligamentary lameness than others; but as the great length of the pastern gives more pliancy and elasticity, they are consequently less exposed to those diseases of the bones which arise from concussion, such as ring-bones. Horses that are cat-hammed or cow-houghed are particularly subject to spavins, curbs, and thorough-pins. The tendency to lameness of every description is greatly increased by working a horse at too early an age, and particularly by placing too much weight upon them at that period. "Farmers and breeders of horses ride them from three years old, until their legs and feet from premature exertion are so much injured as to render their soundness doubtful; and this state often comes on before they are six years old. Under these circumstances they are offered for sale, and generally warranted sound. But though such horses do not manifest lameness in any particular leg by a want of harmony in their motion, yet their injured state may be detected by their stepping short with their fore-legs, and pressing principally on the toe; and upon examining the legs when standing still, if the pasterns (particularly long ones) appear perpendicular and not oblique in their direction, or if the fetlock joint knuckles over, or in other words bends forward, little doubt may be entertained of their being unsound." In all cases of lameness, un-

less the cause is evident, it is proper to examine the foot carefully in the first place. Mr. Clark very properly advises, if the nature of the case appear doubtful, to inspect the foot again the next day, or even a third time, rather than give too hasty or precipitate an opinion with respect to the seat of the lameness; for the foot is always to be suspected, especially after a horse has been new shod, or has had its shoes fastened; or when the shoe lies too flat and presses upon the sole, or there is a corn in the foot. No certain rules can be laid down for discovering the seat of lameness by the manner of the horse's going; for when any of the parts necessary to the motion of the body are injured, the adjacent parts will be more or less affected: thus a wound in the foot may cause an inflammation of the whole leg, and even in some degree of the muscles of the shoulder.

LAMPAS. A swelling of the bars of the mouth in young horses, which sometimes project below the surface of the upper front teeth, and become so tender as in some degree to hinder their feeding. The usual remedy for this complaint is the application of a hot iron to the projecting part, which I have always found effectual. The lampas are often burnt unnecessarily: the operation should never be allowed unless the swelling (for all young horses have it more or less) evidently interferes with the horse's feeding. I have never seen, or at least only in two or three instances, any mischief result from the operation.

LARYNX. The upper part of the windpipe, situate below the root of the tongue before the Pharynx.

LAVENDER. The only preparation of this plant employed in veterinary medicine is the compound spirit, or red lavender, which is said to be a good cordial. The dose about an ounce, mixed with any suitable fluid.

LAX. See *Diarrhæa*.

LAXATIVES. Medicines that purge moderately, or merely loosen the bowels in a slight degree. For this purpose castor oil is a convenient medicine, given either alone, or mixed with two or three drams of aloes, two drams of carbonate of potash, and five or six ounces of water. Common table salt dissolved in gruel is a good laxative for cattle, also Glauber's and Epsom salts. Though castor oil is commonly preferred to all other oils as a laxative, it does not appear improbable that the common oils, which are much less expensive, would be found equally efficacious for horses and cattle: even hogs lard has been given as a laxative with good effect.

LEAD. The preparations of this metal are much used as external applications in veterinary medicine. The most useful are acetate of lead (sugar of lead), the celebrated Goulard's extract, white lead, litharge, and red lead. Large doses of the preparations of lead have been given to the horse without producing any visible effect.

LETHARGY. This disease may be produced by different causes, and appears to attack horses of all ages, and under a variety of circumstances, with respect to diet, situation, &c. It more frequently happens, however, to old horses than young ones, especially such as have been hard worked and ill fed; I believe also that it occurs oftener at grass than in the stable. According to Gibson, "when a horse falls into a lethargy he generally rests his head with his mouth in the manger, and his poll often inclined to one side; he will show an inclination to eat, but for the most part falls asleep with the meat in his mouth, and seldom chews but swallows it down; but unless he is roused he presently falls asleep again. If a horse continues any time in this state, he falls into an atrophy or universal decay; especially if his lungs, liver, or any other of the principal viscera be faulty,

or if he has received any hurt in the head." I have been informed by Mr. Poole, a respectable practitioner, that before the moors were inclosed in the district where he resides, (near Wells, Somerset,) lethargy frequently occurred, and destroyed more horses than any other disease; and that since they have been inclosed, the disorder has scarcely been known. He attributes the disease to their eating a plant which grew very abundantly in the moors, called *ragwort*, and in Culpepper's Herbal *staggerwort*. The following is his description of the symptoms. Standing in one place two or three hours while others were feeding; gaping seven or eight times without intermission; resting the chin on a gate, stile, or manger; or pushing their heads against a tree or post; the urine and dung in small quantity, the latter often with mucus or slime on its surface; at last rambling about, catching here and there a mouthful of grass; till at last they terminate their life in a pond, ditch, or river. Bleeding, in the usual quantity, he says, was sure to prove fatal. They sometimes lived two or even three months. It was generally considered incurable; but he cured one with beer and ginger, and another with snake root, mustard, saffron, compound spirit of lavender, and ginger. "In the next parish moor, where this herb abounded, and where many cattle were kept, cows were seized with this disorder, and died in the same manner: I never heard on inquiry of one cured. I lost two mares and a colt of my own in this disorder, which farmers call the *Pope*." He observes, that "sheep eat the ragwort greedily and are not hurt by it." The symptoms here described seem to correspond with those of the disease I have named Stomach Staggers, except in the length of time it continued. (See vol. i. p. 334, and vol. iii. p. 80.) But it does not appear that Mr. Poole examined the stomachs of the

horses that died; yet it seems probable that had the stomach been so crammed with undigested food, as I have so often found it, it could hardly have escaped notice: and indeed, with a stomach so distended, it appears impossible for the animal to survive more than a few days; whereas, according to Mr. Poole, they sometimes lived under the disorder two months.

This subject will be further noticed under *Staggers*.

LICE. Horses and cattle are often annoyed with lice through negligence and poverty. They may be speedily destroyed by an infusion of tobacco in boiling water.

LIGAMENTS are strong solid bodies, softer than cartilage but denser than membrane. In the horse there are three kinds of ligaments, viz. the capsular ligament, connecting the ends of bones and forming the joint, (see *Joint*); the connecting ligaments, which serve to strengthen or give further support to the moveable bones, and sometimes to connect soft parts; and suspensory ligaments. The most remarkable of the latter kind in the horse, is that which is attached to the back part of the head, the bones of the neck, and the withers; it is of considerable size and very elastic. Another important ligament of the same kind is found firmly attached to the posterior and upper part of the canon or shank bone, immediately below the knee joint; it passes down under the flexor tendon or back sinew, and towards its lower part divides into two branches, which embrace the fetlock joint, of which it is the principal support.

LIGHTS. See *Lungs*.

LINIMENT. A thin ointment or rather a fluid, generally composed of soapy or oily ingredients.

LINSEED, or Flax Seed. An infusion or decoction of these seeds forms a mucilaginous liquor, which is perhaps as good an emollient drink as can be employed. They afford by pressure *Linseed Oil*, which

is sometimes used in pectoral drinks ; it is given also as a laxative. After the oil has been pressed out, there remains a cake, which when powdered is called *Linseed Powder* or *Meal* ; and is commonly employed in making poultices.

LIQUORICE. Liquorice root is a favourite medicine with farriers, and much used in the composition of pectoral drenches and balls ; the black extract, commonly named liquorice or Spanish juice, is employed also for the same purposes. They have a sweet and pleasant taste, and may serve to make medicine palatable, but do not appear to possess any particular medicinal properties.

LITHARGE. See *Lead*.

LIVER. An important organ of the body too well known to require a particular description. Its principal use is to secrete, or separate from the blood, bile or gall. In the horse it is divided first into two large parts or lobes, which are subdivided into seven or eight portions, named Lobules. The right lobe of the liver is the largest ; hence it is said to be situated on the right side. The convex surface of the liver is attached by productions of the peritoneum and cellular membrane to the diaphragm ; the other surface is concave, and in contact with the intestines and stomach. When the bile or gall has been secreted, or formed in and by the liver, it is conveyed by numerous small tubes into the larger one in which they terminate : this is named the Hepatic or Biliary Duct. In the human body, and in most quadrupeds, there is another duct branching off from this, which terminates in a gall bladder, from which the bile is occasionally expelled ; but in the horse there is simply one duct, which conveys the bile into the first intestine or duodenum, where it assists perhaps in the process of chylification, and afterwards in the expulsion of the useless part of the food.

LOCKED JAW. This disease is sometimes produced by wounds of the foot or other parts, or by the operation of docking, nicking, or castration, particularly in warm climates. It begins generally with a difficulty in mastication and stiffness of the muscles of the throat, which gradually extends to the neck; at length the jaws become nearly and sometimes quite closed. There is something very peculiar in the animal's appearance; the ears and tail are cocked, the belly and flanks are drawn up, there is a stiffness in the limbs, the muscles of the neck are generally affected, and sometimes those of the eye; the pulse, in the early stage, is seldom altered. Very few cases, I believe, have been cured; I have succeeded once only, though many cases have been under my care. The remedy in that case was opium and camphor in large doses, and blistering the spine of the back from the withers to the tail. Hot and cold bathing have proved ineffectual after a fair trial; bleeding, even so as to make the animal faint, has been tried with a similar result. Some authors advise rubbing the jaws and throat with stimulating liniments. Gibson recommends continual rubbing of the head, neck, and cheeks, or wherever the stiffness may appear, until the horse is relieved. He also observes, that locked jaw sometimes proceeds from the irritation of botts in the stomach, in which case he directs half an ounce of calomel to be given at one dose. He relates a case in which half an ounce of solid opium was dissolved and given as a clyster, by which the horse was soon relieved. One case of locked jaw was cured by turning a horse out during a very cold winter night. When the disease appears to depend on a wound in the foot, either from a prick in shoeing or stepping on a nail, the part should be laid open with a drawing knife and the actual cautery applied. As long as the

horse is capable of swallowing, wheat flour gruel should be frequently given.

LUNAR CAUSTIC. See *Caustics*, and *Silver*.

LUNGS, or LIGHTS. In describing the lungs, it is necessary to begin with the trachea or windpipe, which descending along the fore part of the throat and neck, enters the chest between the first two ribs, and then gradually ramifying like a tree into numerous branches, terminates at length in small membranous cells. The upper part of the windpipe or larynx has been already noticed. (See *Larynx*.) But the pipe is composed of circular rings of cartilage or gristle, which towards the back part becomes very thin and almost membranous. These cartilaginous rings are connected by strong membranes, by which contrivance the windpipe is enabled to accommodate itself to the various motions of the head and neck. At its entrance into the chest it is divided into two principal branches, called its bronchiæ, which are afterwards subdivided into innumerable other branches, the extremities of which compose an infinite quantity of small cells or air bladders; which with the ramifications of the veins, arteries, nerves, lymphatics, and the connecting cellular membrane, make up the whole mass or substance of the lungs. The lungs may justly be considered as among the most important organs of the body, as they are admirably adapted for the reception of air, without which life cannot be supported; and by their continual action to communicate to the blood that vivifying principle, which it imparts to the system during its circulation through the arteries. (See *Heart*.) The internal surface of the windpipe and its branches is lined with a membrane, which secretes a mucous fluid; when this fluid becomes abundant, it is expelled by coughing. There is also a considerable quantity of watery vapour dis-

charged by the lungs. (See *Respiration*.) The whole is invested with a thin transparent membrane named *Pleura*; the same membrane lines the internal surface of the ribs and diaphragm, and by a duplicature it makes, which stretches across from the back to the breast bone, forms a partition between the two lungs, this is called *Mediastinum*. The lungs are subject to various diseases, which are noticed in their respective places. See *Peripneumony*, *Pleurisy*, *Broken Wind*, *Cough*, *Catarrh*, *Consumption*, and *Glanders*.

Lungs, Inflamed, or Peripneumony. It has been very justly observed by Mr. Blaine, that "this disease has been very much mistaken among farriers, which has added much to its fatality; and if no greater improvements had been gained to the art than in the knowledge of the causes, effects, and mode of treatment of this disease alone, still the founders of these improvements would have been eminently useful, and deserved well of the community." It does not appear necessary to notice the various causes by which this disease may be produced; it will be sufficient to mention those, a knowledge of which may tend to its prevention, viz. a sudden transition from heat to cold, or the contrary; exposing a horse, when over-heated by exercise, to rain or cold winds; or allowing him to drink freely of cold water when in that state; taking a horse from grass, and putting him suddenly into warm stables where many horses are kept, especially if he is at the same time fed freely with oats; excessive exertion may also be reckoned among the causes of peripneumony, which may, or rather ought to be avoided. Before the more distinguishing symptoms of peripneumony take place, the horse is observed to look dull, hang down his head, and be indifferent about his food; or refuse it altogether. There is a quickness of breathing, which is indicated by the working of the flanks and

nostrils; and the inner surface of the eye-lids is unusually red. The pulse, which in health is about forty in a minute, will be found from eighty to a hundred. If the disease is not properly treated, these symptoms, particularly the motion of the flanks and quickness of the pulse, will of course increase, and the progress of the disorder is sometimes so rapid, that, unless relief be afforded the first or second day, it becomes incurable. Bleeding is universally allowed by veterinary authors to be the grand remedy for this disorder; but there is some difference in their opinions with respect to the quantity of blood that ought to be taken off. Gibson says, that "a strong horse may, in the beginning of the disease, lose *three quarts* at once; and that on the next day, if symptoms continue violent, *two quarts* more may be taken from him; but if he be old or has had any previous weakness, the best way is to bleed often; but take off a less quantity at a time. In such cases a horse may lose a quart in the morning and the same quantity in the afternoon, which may be repeated the next day, and longer if the symptoms so require." I do not hesitate in saying that this mode of treatment is ineffectual, but sometimes flattering; for though the inflammation may be retarded, it is seldom, if ever, eventually cured by it; most commonly, by such treatment, an effusion of serum into the cavity of the chest takes place, instead of mortification, by which the animal's life may, perhaps, be protracted a few days. Mr. Blaine says, "as a general rule it may be remembered bleeding is never to be continued longer than it raises the pulse; but so long as it does this, it is proper and should be continued." This I believe is a fallacious guide. Bleeding, according to my experience, when carried to a sufficient extent, makes the pulse quicker and weaker. When called in at an early period of this disease,

one bleeding will often arrest the progress of the inflammation, if carried so far as to produce this alteration in the pulse, with an appearance of beginning faintness about the eyes. The blood should always be preserved for examination; for if it be found sizey, (see *Blood and Buff*,) it indicates the propriety of the operation, and that it should be repeated in a few hours, if a continuance of the symptoms render it necessary. According to Mr. Feron, "five or six quarts of blood should be taken at once." We must endeavour also, he says, to bring on external irritation on each side of the chest and legs; by blistering or firing on the region of the lungs, and introducing a rowel in the chest and belly; the legs are to be well stimulated, he says, with oil of turpentine. Should there be any appearance of costiveness, a clyster and a dose of laxative medicine are to be given; afterwards the following ball, twice a day:

Nitre, six drams;

Tartarized antimony, two drams;

Flour and syrup enough to form a ball.

Should the balls bring on profuse staling, they are to be discontinued for a day or two. The horse should be turned loose into a place where it is moderately warm, and where he is not exposed to a current of air. In summer he may be allowed grass, vetches, or other green food; moderately warm clothing is proper. When the horse appears to be getting better, he should have oatmeal gruel, or infusion of malt. Inflammation of the lungs seems to begin sometimes in the mucous membrane lining the throat, the windpipe, and its branches. In this case there is a cough, watery eyes, a discharge from the nostrils; and the pulse and breathing are not so quick as in the former disease. Here also *early* bleeding is the essen-

tial remedy; and when assisted by good nursing, steaming the head, clothing the head as well as the body, and giving the nitre balls prescribed above, the complaint is generally removed in a short time. See vol. i. p. 39, and vol. iii. p. 109, of the author's *Farriery*.

LUXATION. See *Dislocation*.

LYMPH. A transparent fluid contained in the lymphatic vessels.

LYMPH, COAGULABLE. See *Blood*.

LYMPHATIC VESSELS. Absorbent vessels that carry a transparent fluid or lymph. They are small and transparent, and originate in every part of the body. With the lacteals, they form what is termed the absorbent system. Their termination is in the thoracic duct. (See *Lacteals* and *Thoracic Duct*.) The office of these vessels is to take up substances that are applied to their mouths; thus the moisture within the abdomen and other cavities, and that in the cellular membrane, are removed by the lymphatics of those parts; and thus mercury and other substances are taken into the system when rubbed on the skin.

M.

MADNESS. See *Brain, Inflamed*; *Hydrophobia*; and *Staggers*.

MAGNESIA. An absorbent earth, seldom, if ever employed in veterinary medicine.

MALLENDERS. A scurfy kind of eruption on the back part or bend of the knee joint. After clipping off the hair and washing the part well with soap and warm water, some mild astringent ointment should be applied twice a day; such as common wax ointment or lard, mixed with Goulard's extract or sugar

of lead. In obstinate cases something stronger may be necessary.

Take of Sublimate, ten grains ;

Mercurial ointment, one ounce.—Mix.

MANAGEMENT OF A HORSE ON A JOURNEY, See vol i. p. 272, of the author's *Farriery*.

MANGE. A disease of the skin, which causes a horse to be perpetually biting or rubbing himself. It appears in a loss of hair, and small scabby eruptions, generally about the mane, the head, or back part of the tail ; but sometimes on all parts of the body. When a mangy part is rubbed, the horse expresses by his countenance, or rather by the motion of his lips, the greatest satisfaction and pleasure ; and by this circumstance it may be known whether the disease has ceased or not after the remedies have been applied. The mange is generally produced by poverty and negligence ; but being contagious, often attacks horses that are well treated, and in good condition. When mange arises from the former cause, the first step towards a cure must be sufficiently obvious ; then let a dose of mild physic be given, and the following ointment applied :

Take Oil of turpentine, four ounces ;

Strongest sulphuric acid, by measure, one ounce.—Mix carefully, in a vessel large enough to contain four or five times the quantity, adding the acid by a little at a time.

The mixture should be made in the open air, or under a chimney, that the suffocating vapours which arise may be avoided. When the acid is poured on the turpentine, if the former is sufficiently strong, an effervescence, or rather boiling, will take place, which may be promoted at first by stirring the mixture. When the boiling has ceased, add of

Melted hog's lard, eight ounces ;

Common oil, four ounces ;

Sulphur vivum, *finely* powdered, six ounces.

—Continue to stir the mixture until it is cold.

Previous to the application of this ointment, the mangy parts, or wherever the horse may feel an itching, are to be well rubbed with an old blunt curry-comb, by which means the diseased surface will be completely exposed, and the hair will be removed from such as would otherwise have escaped notice. The ointment is then to be well rubbed in, and repeated for three or four days, unless the parts become too sore to bear it. Let the following powder be given in a mixture of bran and corn twice a day :

Levigated antimony, one ounce ;

Calomel, fifteen grains.—Mix.

In obstinate cases, sublimate has been given with advantage, mixed with tartarized antimony, as in the following formula :

Corrosive sublimate, from ten to fifteen grains ;

Tartarized antimony, two drams ;

Ginger, one or two drams ;

Powdered caraway seeds and syrup enough to form the ball.

In slight cases of mange, or where the smell of the ointment is objected to, washing the parts with a solution of sublimate has effected a cure. See *Corrosive Sublimate*, also vol. ii. of the author's *Farricry*, or *Materia Medica*.

Cattle, sheep, and dogs, are also subject to mange. In the former it generally arises from want of cleanliness and poor keep. It is commonly called by herdsmen the Scab or Scurf. The disease is incident to sheep in some particular pastures, situations, and seasons, more than to others. It seems to be generally produced by poverty and leanness ; but, from its

contagious nature, will attack also such as are fat. Dogs are exceedingly subject to mange, and readily catch it from each other. The ointment above prescribed will be found as effectual in these animals, as in horses, and the same general treatment is applicable to them. In sheep, the matter discharged mixes with the wool, and drying, forms a hard impenetrable crust, which must be completely removed by soaking and scraping before any application can be effectual. The following has been recommended for the scab in sheep:

Corrosive sublimate, one dram;
Crude sal ammoniac, half an ounce;
Tobacco water, one pint.—Mix.

A solution of arsenic and potash in water has also been found effectual. A considerable quantity of an arsenical ore was, a few years ago, sold as sulphur vivum, by a London wholesale druggist, in various places. As long as it was used as an external application for the mangy complaints of cattle, its real nature was not discovered. At length, an unfortunate person at Sidmouth, in Devonshire, was advised to take sulphur vivum in order to cure the itch; some of this arsenical ore was sold to him as such by a druggist of the town, and taken by the man, his wife, and his child; they all died soon after, and it was then discovered, that the supposed sulphur vivum consisted in a great measure of arsenic. There is a variety of mange in dogs called the Red Mange, from the red appearance of the skin that is affected; this is said to be cured by mercurial ointment.

MARSHMALLOWS. See *Althea*.

MARTIAL. A term formerly applied to the preparations of iron; such are martial ethiops, martial flowers. See *Iron*.

MASH. The mash most commonly used is made

by pouring boiling water on bran, or a mixture of bran and oats, and suffering them to stand till nearly cold. Mashies are sometimes made with malt, particularly for horses that are recovering from fever.

MASSAL. A cordial powder, so named in India, and commonly given to horses after much fatigue or exposure to rain. It is considerably stronger than the cordials usually employed in England; one dose containing

Pepper,	} of each two drams.
Ginger,	
Saffron,	
Jaggery,	
Mustard,	

To this are sometimes added spices, and even capsicum, or the Chili pods.

MASTICATION. The act of chewing. This is sometimes impeded, particularly in old horses, by the teeth wearing irregularly, so that sharp points are formed in the upper grinders, by which the inside of the cheeks are wounded and become ulcerated. The sharp points are to be removed by means of a concave or hollow file, and the ulcers syringed with a solution of alum or white vitriol.

MATTERING OF THE YARD. A discharge from the sheath of the penis, sometimes attended with excoriation or ulceration. The penis is to be drawn out and washed with some astringent lotion; such as that prescribed for the disease called *Bull Burnt*, which see.

MECONIUM. The excrements of a foetus or young animal, which are contained in the intestines after birth.

MEDIASTINUM. See *Lungs*.

MEGRIM or VERTIGO. A sudden giddiness, which sometimes causes a horse to fall down, as in epilepsy. It most commonly attacks old horses, particularly

during some considerable exertion, when ridden fast, or when turned suddenly. It is to be treated as *Epilepsy*, which see.

MERCURY. See *Quicksilver*.

MESENTERY. A membrane in the cavity of the abdomen attached to the vertebræ of the loins and to the intestines. Its use is to connect and support the intestines, and to conduct the lacteals and blood vessels. It consists of three parts; one uniting the small intestines, which receives the name of Mesentery; another connecting the great intestines, termed Mesocolon; and a third attached to the rectum, named Mesorectum.

METACARPUS or *Metacarpal Bones*. In human anatomy this name is applied to the bones which compose the wrist; but in the horse it signifies the shank bones, that is, the large bone between the knee and fetlock joint and the two small bones which are attached to it, commonly named Splent Bones.

METASTASIS. The translation of a disease from one part to another.

METATARSAL BONES. The bones between the hock and fetlock joint.

MEZEREUM. The bark of the root of this shrub is employed in cutaneous complaints of the human subject, generally in the form of decoction, with sarsaparilla, sassafra, &c. Its effect on the horse and other domestic animals has not, I believe, been ascertained.

MIDRIFF. See *Diaphragm*.

MINIUM or *Red Lead*. See *Lead*.

MISLETOE. A parasitical plant growing on the apple, oak, and some other trees. Gibson speaks of it as a remedy for staggers; but it appears to be undeserving of notice. The London and Edinburgh colleges have expunged it from their catalogues of the *Materia Medica*.

MITHRIDATE. A favourite medicine with farriers, composed of *forty-two* ingredients in its improved and *abridged* form in Quincy's Dispensatory. The London college have substituted for this the Opiate Confection.

MOLTEN GREASE. "This disease," says Mr. Blaine, (which he names Dysentery,) "the *gras fondu* of the French, is in itself one of the strongest proofs of the pitiable state in which veterinary medicine has been plunged till this period. Bartlet, who was educated a surgeon, and should have known better, says, 'by molten grease is meant a fat or oily discharge with the dung, and it arises from a colliquation or melting down of the fat of a horse's body, by violent exercise in very hot weather.' Bracken, Gibson, and some later writers, have held the same opinion." I perfectly agree with Mr. Blaine as to the absurdity of Bartlet's theory or explanation of the disease, but do not think he is correct in stating, that it is as likely to happen to a horse with little fat as one that has much; nor do I think that it resembles the dysentery of the human subject. Molten grease is commonly produced by violent or long continued exertion when a horse is not prepared for it. Horses that are fat and unaccustomed to exercise, or such as have been recently taken from grass, are most liable to it. Molten grease is, in fact, only a symptom, which sometimes attends inflammatory fever or general inflammation. According to Gibson, "molten grease is always accompanied with a fever, with heat, restlessness, starting tremors or tremblings, great inward sickness, shortness of breath, and sometimes with the *symptoms of pleurisy*; and these symptoms are more or less aggravated according to the previous state of the horse, or the degree of violence in the treatment he has met with. His dung will then be extremely greasy; and he will fall into a

seouring, not unlike the greasy diarrhœas that happen to men in somewhat of the like circumstances." When a horse is attacked with inflammatory fever, the symptoms are not always the same, but vary according to the part that happens to be most affected, and the violence of the disorder. Thus, in inflammatory fever, there may be either inflammation of the lungs, of the bowels, or of the urinary organs; or it may be attended with that peculiar affection of the mucous membrane of the bowels, which constitutes molten grease. Plentiful bleeding is the first and most important remedy for this disorder; which may be repeated after a few hours, should it appear necessary. If there be griping pains, and if the dung is voided in small slimy knobs, give a pint of castor oil; but if the bowels are loose, and the dung of that greasy appearance before described, let the horse take frequently some decoction of linseed, oatmeal gruel, or gruel made with arrow-root. When a horse has recovered from this disease, there may remain a tendency to costiveness, which should be counteracted by bran mashes or green food. See *Fever*.

MOON BLINDNESS. In speaking of the diseases of the eye, it has been observed, that Ophthalmia, or inflammation of the conjunctive membrane and cornea, often comes on rather suddenly, and after continuing for some time, by the application of proper remedies is generally removed; most commonly, however, after a short period the disease returns. In this fluctuating state it may remain a considerable time before a cataract or incurable blindness takes place. From this periodical appearance of the disease, it has been supposed that it follows the changes of the moon, and has therefore been named Moon Blindness. See *Eye*.

MORTIFICATION. By this term is meant the loss

of vitality in any part of the body, in consequence of excessive inflammation or some violent injury. Mortification of the lungs, bowels, or other internal parts, is not an unfrequent occurrence, and in deep and extensive lacerated wounds, particularly when improperly treated, mortification sometimes ensues. Internal mortification is always fatal; but when it happens externally, the mortified or dead part separates from the adjacent living parts, and the animal often recovers; but in very severe injuries there is sometimes so much sympathetic fever produced, that the animal becomes exhausted by the excessive irritation, and sinks under the disease. See *Inflammation, Lungs Inflamed, Bowels Inflamed, and Wounds*.

MOULTING. About the latter end of September or beginning of October, horses generally suffer a change in their constitution, attended with some degree of weakness or faintness, at the same time a considerable change takes place in the thickness and length of their hair; and though they do not usually cast their coats at this season as they do in spring, it is commonly called their moulting season. In the spring another moulting takes place; the winter coat is thrown off and exchanged for one that is shorter and smoother. At these periods horses require particular care, and cannot bear exposure to rain, or cold winds, particularly after having been heated by exercise, without suffering from it; hence arise colds, coughs, inflamed eyes, and swelling of the legs: at such times also they are unfit for severe work, particularly during the autumnal or October moulting; Their work therefore should be moderate, and their strength supported by food of the best quality. Should the horse appear much fatigued after his work, cordials will be found useful.

MOURNING OF THE CHINE. A name given by Markham and other old farriers to Glanders.

MUCILAGE. Any thing glairy and miscible with water, such as a solution of gum arabic or tragacanth, an infusion of linseed, &c.

MUCUS. A viscid fluid formed in various parts of the body; as on the inner surface of the intestines, the membrane lining the nostrils, &c.

MUGWORT. An herb sometimes employed in making fomentations.

MURIATIC ACID. This is commonly named Spirit of Salt. It is sometimes used as a caustic; when united with about half its weight of corrosive sublimate, it forms a very powerful caustic, which, if diluted with water or spirit of wine and water, according to the purpose for which it is wanted, will be found useful on many occasions where caustics or escharotics are required.

MURRAIN. *Malignant, Epidemic, or Pestilential Fever.* This is the most serious epidemic that has ever appeared among domestic animals, and has raged occasionally from the earliest historical accounts. According to M. Sauvages, Professor of Medicine at Montpellier, who was an accurate observer of the disorder when it raged with great violence in Europe, of twenty that were attacked with it nineteen died; no certain remedy had been discovered, nor any effectual mode of prevention, except separating the healthy from the sick. He recommends however bleeding and purging at the commencement of the disorder, with setons in the dewlap. After the operation of the purgative, he considers opiates, aromatics, &c. as the most proper remedies. The reader is referred for a further account of this destructive disorder to a Treatise on Cattle by John Mills, published by J. Johnson, which contains an abstract of the various opinions that have been published on the subject.

MUSCLE. The parts that are usually included under this name consist of distinct portions of flesh,

susceptible of contraction and relaxation; the motions of which, in a natural and healthy state, are subject to the will, and for this reason are termed Voluntary Muscles. Besides these, there are other parts of the body which owe their power of contraction to their muscular fibres: thus the heart is a muscular texture, forming what is called a hollow muscle; and the urinary bladder, stomach, intestines, &c. are enabled to act upon their contents, merely because they are provided with muscular fibres; these are called Involuntary Muscles, because their motions are not dependent on the will. The muscles of respiration, being in some measure influenced by the will, are said to have a mixed motion. The names by which the voluntary muscles are distinguished, are founded on their size, figure, situation, use, the arrangement of their fibres, or their origin and insertion.

MUSTARD. Flour of mustard made into a thin paste with water, with the addition of a little liquid ammonia, forms a stimulating embrocation, which is rubbed on the belly and chest in inflammation of the lungs and bowels with good effect; and when the kidneys are inflamed it is rubbed on the loins.

MYRRH. A gum resin of a dark red colour, solid and heavy, of a peculiar smell and bitterish taste. It is sometimes used internally. Gibson prescribes it in injuries of the kidneys, and other diseases, but it is seldom employed in modern practice. A tincture of myrrh is made by dissolving it in spirit, which is sometimes applied to wounds and ulcers.

N.

NARCOTICS. Those medicines which have the power of procuring sleep, the most useful of which is opium.

NATHON. See *Soda*.

NECK, *Swelling of.* See *Veins, Injuries of.*

NERVES. This name was formerly applied to sinews, which accounts for the opposite meaning of the word *nervous*; sometimes it means strong and sinewy; at others, weak and irritable. Nerves are long white medullary cords, that serve for sensation. They originate from the brain and spinal marrow; hence they are distinguished into cerebral and spinal nerves, and are distributed upon the organs of sense, the viscera, muscles, and every part endued with sensibility.

NEUTRAL SALTS are formed by the union of an acid and an alkali, in such proportions that neither may predominate. Of this kind are Glauber's salt, Epsom salt, nitre, &c.

NICKING. An operation often performed on horses, to raise the tail, and make them carry it more gracefully. Some horses do not require this operation, particularly such as are well bred, and are docked at an early age; but others that carry their tails almost close to their buttocks are certainly improved by nicking. The operation consists in making two or three incisions in the under part of the tail, extending quite across, or as far as there is no hair produced. The first cut should be about two or three inches from the basis of the tail, and a similar space should be left between the first and second, and second and third incisions. On making the second incision, if the first has been sufficiently deep, part of the muscle will protrude, which must be drawn out and cut off. The bleeding is to be stopped by pledgets of tow firmly bound on. The tail is now to be kept in an elevated position, by means of a cord tied to the end of it, and passed over a pulley with a weight attached at the other end of the cord: it is needless to give a particular description of this part of the process, as the apparatus may be seen in a horse-dealer's stable,

where it is always kept ready. The morning after the operation the bandages are to be loosened; the best way of doing it is to cut them gradually through at the upper part of the tail, by which the part will be no longer compressed, and all danger avoided. After the upper part of the bandage is cut through, nothing more is to be done; as matter forms in the wounds they will fall off. No kind of dressing or covering is necessary for the wounds; indeed they heal sooner when exposed to the air, and left entirely to nature. It is generally necessary to keep the tail in pulley about three weeks. See the author's Farriery, vol. iv. p. 127.

NITRE, *Nitrate of Potash* or *Saltpetre*. A medicine much used in veterinary medicine as a diuretic and febrifuge. The dose from half an ounce to an ounce or twelve drams, twice or three times a day; Gibson and Bartlet prescribe it in doses of two ounces three times a day. I have seen it given to the extent of four ounces at one dose; but it evidently quickened the pulse and breathing, and distressed the animal in a considerable degree.

NITROUS ACID, or **STRONG SPIRIT OF NITRE**. This is a powerful caustic, and generally requires to be diluted. It readily dissolves quicksilver, copper, and some other metals. With quicksilver it forms a caustic, that has been strongly recommended for the foot-rot in sheep; it is to be mixed with a proportion of water, according to the state of the part.

NUTRITION. The living body is continually losing its constituent parts, which a variety of causes are incessantly carrying off, and when the stomach, and other parts concerned in the process of nutrition are in a healthy state, and there is a due supply of food, a constant renovation is at the same time going on. Nutrition is a complicated process, and may be interrupted by various circumstances. Supposing

the food to be sufficient in quantity, and of a proper quality, it is necessary that it should be masticated and moistened with saliva, and then by means of the tongue, with the muscles of the pharynx and gullet, it is conveyed to the stomach; here the masticated food mixes with certain juices, by which it is further altered and converted into a pulpy mass, termed Chyme. As soon as it passes from the stomach, it mixes with the bile and pancreatic juice, which are supposed to cause a separation of the more essential parts of the digested mass, which is named Chyle. On the inner surface of the small intestines there are innumerable small orifices, which are the mouths of the lacteal vessels, by these the chyle is sucked up and conveyed to the thoracic duct, a vessel that lies upon the vertebræ of the back. By the thoracic duct it is carried to a large vein near the heart, where it mixes with the blood. From this sketch it may be seen how many circumstances may happen to impede or oppose nutrition. Thus in old horses the grinding teeth sometimes wear so unequally, that mastication is performed with difficulty, and great part of the grain they eat is swallowed unchewed; or there may be a deficiency of saliva: in either case the food will pass into the stomach in an unprepared state. I have seen a case where the muscles of the pharynx had become paralytic, so that the horse was incapable of swallowing. In vol. i. of the *Veterinary Medicine* this subject has been particularly noticed, and the most effectual means pointed out of removing any impediments that may exist to the process of nutrition. See vol. i. p. 227.

Nux Vomica. A powerful narcotic poison, especially to dogs. When a dog has been maliciously poisoned by it, an emetic should be given the moment it is discovered. I have known this succeed even

after the convulsions which *nux vomica* causes had come on. The emetic most readily procured, and as quick in its operation as any, is a teaspoonful or more of common salt dissolved in a very small quantity of water.

O..

OCCIPUT. The back part of the head or skull.

CEDEMA. A dropsical swelling.

ESOPHAGUS. See *Gullet*.

OILS. These are distinguished into *fat* and *essential* oils. The former are generally procured from the substance which contained them by pressure, and are therefore named also *expressed* oils; such are oil of olives, oil of almonds, oil of linseed, &c. Essential oils differ from the former by the following characters: their smell is strong and aromatic; their volatility is such that they rise with the heat of boiling water, and their taste is very acrid; they are likewise more combustible than fat oils. They are obtained both by distillation and pressure from strong smelling plants, seeds, &c. The use of the fat oils in medicine is considerable; they are prescribed as laxative, softening, and relaxing remedies; they enter into the composition of ointments, liniments, plasters, &c. Essential oils are employed as cordial, stimulant, and antispasmodic remedies. The various oils are noticed under the names of the substances from which they are obtained.

OLECRANON. The elbow, the projecting bone at the upper part of the horse's fore arm, near the ribs.

OINTMENTS. Unctuous substances of the consistence of butter; when made considerably thinner by the addition of oil, they are named *Liniments*; but

when their solidity is increased by being melted with wax, rosin, &c. they are called Plasters. See *Digestive Ointment*, &c.

OLFACTORY NERVES. The first pair of nerves; in the horse they are remarkably large, and have a cavity which contains a small quantity of fluid. Their branches are distributed over the pituitary membrane, which lines all the interior parts of the nose, and constitute the sense of smelling.

OLIBANUM, or FRANKINCENSE, is sometimes used in the composition of ointments and plasters.

OMENTUM. The omentum or cawl is a double membrane, containing within its folds a considerable quantity of fat in the human body and in many quadrupeds; and when such bodies are opened, the first thing that presents itself is this membrane, spread over the whole intestines down to the pelvis. But in the horse this is never seen; nor does the omentum contain any fat, or at least only an inconsiderable quantity: it is confined chiefly to the stomach, over which it is spread, and extends only to the anterior part of the intestines. On this account the horse is not subject to that kind of rupture termed Epiplocele or Omental.

OPHTHALMIA. See *Eye, Diseases of*.

OPIATES. Medicines which contain opium.

OPIMUM. A narcotic substance prepared from poppies. It was formerly called Opium Thebaicum, or Thebaic Extract, because at that time it was prepared principally at Thebes. Opium is a valuable medicine, and the most powerful anodyne and antispasmodic we are acquainted with. The dose in which it may be given to horses and cattle varies considerably, according to the circumstances of the case: thus in locked jaw it has been prescribed to the amount of three drams; and in some cases only one ninth part of that quantity has been found a sufficient dose. Mr.

Coleman thought, from some experiments made at the Veterinary College, that opium has no apparent influence over the nervous system of the horse, and that it does not alleviate pain. I think that opium, as to its effect on the horse, does not possess that soothing, anodyne, and soporific quality, for which it is justly distinguished in human medicine; but it certainly causes heaviness and sleepiness, and in large doses a kind of delirium. In Boardman's Dictionary it is said, "that a condemned troop horse had half an ounce only of purified opium given to him; he slept, though in the day time, for eight or nine hours, nor could he be readily roused." It is very pertinently and properly added, that "we, (the author,) have frequently seen the most violent stages of flatulent colic removed by opium, without the aid of any other medicine; and in all such instances the animal was afterwards much inclined to sleep." One ounce and half of tincture of opium is considered equal in power to one dram of opium.

When opium is given as a clyster a double dose is necessary.

OPODEDOC. A solution of soap and camphor in spirit of rosemary; it is more properly named in the late dispensatories Soap Liniment. The following formula is from the London Pharmacopœia:

Soap, three ounces;

Camphor, one ounce;

Spirit of rosemary, one pint.

Digest the soap in the spirit of rosemary, and afterwards the camphor, till they are dissolved. By increasing the proportion of soap which the spirit will dissolve by a moderate heat; the compound, when cold, will be solid, and resemble the celebrated Steers's Opodeldoc.

ORIGANUM, *Wild Marjoram.* The essential oil of this herb is highly esteemed by farriers; it does

not however possess any peculiar efficacy in strains and other cases in which they usually employ it: like other essential oils, it is a powerful stimulant, and is usefully applied to callous swellings, or old strains.

OSTEOLOGY. That branch of anatomy which relates to the bones.

OVARIA. The parts that are cut off in the operation of spaying.

OVER-REACH. A wound inflicted by the hind foot upon the heel of the fore foot, in travelling. It is to be treated like other wounds; and if the part be much inflamed, a poultice should be applied.

OXYMEL. A syrup made with honey and vinegar. There are also compound Oxymels, such as Oxymel of squills, &c.

P.

PALM OIL. A yellow or orange coloured substance resembling butter, procured from the fruit of the mackaw tree, which grows in Jamaica. For medicinal purposes it is not better than lard or butter.

PALSY. A loss of muscular power and feeling in any part of the body; more commonly partial than total. It is often a symptom of apoplexy, and is then to be treated accordingly. In paralytic affections of the limbs blistering the part is the best remedy. Horses that are kept out in cold wet weather are sometimes seized with a numbness of the limbs; but this is different from palsy, and is soon removed by placing them in a warmer situation. See *Apoplexy*.

PANCREAS, or SWEETBREAD. A glandular substance situated in the abdomen near the stomach. It secretes, or separates from the blood a juice, which resembles saliva, and is conveyed by the pancreatic

duct into the duodenum or first intestine, a few inches from the stomach. The biliary and pancreatic ducts enter the intestine close to each other. The pancreatic juice serves to dilute the digested food as it passes from the stomach, and may also assist the separation of the chyle. See *Nutrition*.

PANNICLE, or FLESHY PANNICLE. A thin muscular covering attached to the skin of brute animals, by means of which they are enabled to shake it, and get rid of flies or any thing which adheres to the hairy coat and causes uneasiness.

PAR VAGUM. A name given to the eighth pair of nerves, two considerable branches of which pass down the neck, between the windpipe and carotid artery, and quite close to the latter. A wound or division of this nerve has proved fatal.

PARALYSIS. See *Palsy*.

PARAGORIC ELIXIR, or CAMPHORATED TINCTURE OF OPIUM. A preparation composed of

Hard purified opium,	} of each one dram;
Flowers of benjamin,	
Camphor, two scruples;	
Oil of aniseed, one dram;	
Proof spirit, two pints.	

To be digested for three days, frequently shaking the mixture, and then strained off for use.

Paregoric elixir has been much used in human medicine for troublesome coughs; but it is by no means an eligible preparation for horses, on account of the large proportion of spirit it contains.

PAROTID GLANDS. Two large glands situated under the ears; they secrete saliva, which is conveyed by a duct, named, from its discoverer, Stenonian, into the mouth. These glands sometimes become inflamed and swollen, which disease is by farriers named the Vives.

PAROXYSM. A periodical fit of a disease.

PASTERN. The part between the fetlock joint and the hoof.

PATELLA. The stifle bone of the horse, corresponding with that of the human knee.

PATTEN SHOE. A shoe sometimes employed in old lamenesses of the hind leg: it is raised like a patten, a few inches higher than the opposite shoe, and applied to the sound limb to put the muscles of the other on the stretch. I never saw it do any good.

PECTORALS. Medicines employed for coughs or other diseases of the lungs.

PENNYROYAL. A warm aromatic herb, similar to mint in its medical properties, though perhaps inferior to it as a carminative. An infusion of the dried herb is sometimes employed as a vehicle for more powerful aromatics or stimulants. There is also a distilled water of pennyroyal kept in the shops; and an essential oil; the latter is the most convenient form of using it, first dissolving it in a little rectified spirit, and then adding to the solution about a pint of water, gruel, or beer, according to the purpose for which it is wanted.

PEPPER. This name is applied to different substances; thus we have black pepper, white pepper, long pepper, and Cayenne pepper or capsicum, &c. They are all powerful stimulants, particularly the latter, and are useful, when employed with caution, in diseases where stimulants are proper. The dose of pepper is about half an ounce; but the powdered capsicum or chilipod must be given more sparingly, particularly when unadulterated, in which state perhaps it is not often met with.

PERICARDIUM. The heart-bag. See *Heart*.

PERICHONDRIUM. A thin membrane which covers cartilages.

PERICRANIUM. The membranes, &c. which cover the skull.

PERINÆUM. The space between the anus and the testicles.

PERIOSTEUM. The membrane which covers bones.

PERIPNEUMONY. See *Lungs Inflamed*.

PERITONEUM. When the skin and muscles of the abdomen are laid open, the bowels will be found inclosed in a smooth membranous sac, which is termed by anatomists, Peritoneum. See *Intestines*.

PERSPIRATION. The fluid or vapour which is secreted by the arteries of the skin. It is distinguished into sensible and insensible; in the latter state it passes off in invisible vapour; in the former, so as to be visible, as sweat.

Perspiration is a highly important discharge in horses and other quadrupeds; in some animals however, as the dog, there is no visible perspiration; but in such animals the vapour thrown off from the lungs is proportionably abundant. In the human body perspiration is easily promoted by medicine, but in the horse and other domestic animals this is not the case; indeed we are not acquainted with any medicine which will excite sweating in the horse, except it be such substances as will produce violent irritation or inflammation of the stomach and bowels; and we observe generally, that, when these parts are inflamed, profuse perspiration will break out in the paroxysms of pain. Many of the diseases of horses and cattle are caused by suppressed or checked perspiration; the various appearances they assume depending perhaps in a great measure upon the suddenness with which the discharge is stopped, and the state of the animal at the time it takes place. Thus if a horse, after being heated and made to sweat by exercise,

and then suffered to stand still, be exposed to a cold wind or rain, a fever, or inflammation of some internal organ, will probably be the consequence; and the disease thus produced will be still more serious, if the horse's exercise have been such as to produce considerable fatigue. If on the other hand, a cold current of air be admitted to a horse's body as he stands in a stable, it will often cause a catarrh or cold. Cattle often suffer from being kept in cold bleak situations, particularly in the early part of spring during the prevalence of an easterly wind; in this case the suppression of the discharge is more gradual, and the diseases which result from it are slower in their progress, consequently more insidious in their nature; and it often happens, that the animal is left in the same cold situation until the disease is incurable. It seems probable that in these cases the perspirable vessels gradually lose their power, and that at length a total and permanent suppression of that necessary discharge takes place: hence arise consumptions, decayed liver, rot, mesenteric obstructions, and various other complaints. How necessary therefore is it for proprietors of cattle to be provided with sheltered situations for their stock! how many diseases might they prevent by such precaution! and how much might they save, not only in preserving the lives of their cattle, but in avoiding the expense, (too often useless, to say the best of it,) of cattle-doctoring!

PERUVIAN BARK. See *Bark*.

PERUVIAN BALSAM. See *Balsam*.

PESSARY. An instrument introduced into the vagina to support the uterus. These instruments may be seen at the Surgeon's Instrument Makers'; and it has been suggested in a former article, that something of the same kind, but of larger dimensions,

may perhaps be usefully applied to cattle. See *Falling down of the Calf Bed.*

PETROLEUM. See *Tar.*

PHARYNX. The upper part of the œsophagus or gullet. See *Gullet.*

PHILONIUM. A preparation of opium. The College have substituted for this the opiate confection. See *Mithridate.*

PHLEBOTOMY. See *Bleeding.*

PHYSIC. See *Purgatives.*

PITCH, BURGUNDY. A kind of resin employed in making plasters. Common pitch is sometimes used, but not often, for similar purposes.

PITUITARY MEMBRANE. That vascular and mucous membrane, which lines all the interior parts of the nostrils.

PLASTER. A composition of wax, resin, oil, fat, &c. See *Charge.*

PLATE VEIN. A large vein running up the fore leg on the inside.

PLETHORA. An excessive fullness of vessels, or a redundancy of blood.

PLEURA. A membrane which lines the internal surface of the thorax, and covers the lungs, and the other contents of that cavity. (See *Lungs.*) It forms also the mediastinum, by which the thorax is divided into two parts.

PLEURISY. Inflammation of the pleura. (See *Lungs Inflamed.*) Gibson imagined there was a difference between the symptoms of pleurisy and peripneumony; but this does not appear to be the case. Inflammation no doubt often begins in the pleura, but, unless checked, quickly affects the substance of the lungs, constituting peripneumony.

POLLARD. Fine bran.

POLL ÉVIL. An obstinate disease, which often

happens to horses. It generally proceeds from a blow received upon the poll or back part of the head. Sometimes the injury thus inflicted is superficial, and easily cured by fomentation, &c.; more frequently however, the vascular membrane, between the under surface of the great suspensory ligament of the neck and the first vertebra, is the part principally hurt: in consequence it becomes inflamed, and suppuration takes place. The matter, having no vent, spreads in various directions, or where there is the least resistance; and both the bone and ligament are affected before any external swelling can be observed. Thus an obstinate disease is established before its existence is suspected, as the only indication of it is a stiffness in the motions of the head. Several months have elapsed in some instances before any external swelling has been perceived; and then some mode of repelling the tumour is often adopted; such as stimulating or blistering liniments, &c., which cannot of course be effectual in accomplishing the object for which they are used: they may however promote the progress of the matter to the surface, and bring the swelling to a proper state to be opened. When this has been done, a free and extensive incision should be made, so that the finger may be introduced, and the length and direction of the sinuses or pipes ascertained; all these should be freely opened also, and though the bleeding which ensues may have a formidable appearance, it may always be stopped by pressure. When the bleeding has ceased, some caustic composition should be applied to all the diseased parts; such as butter of antimony, solution of sublimate in muriatic acid, or of quicksilver in nitrous acid, or the *scalding mixture*, which, if neatly applied, so as not to injure sound parts, is perhaps as effectual as any. (See *Fistula*.) Two or three days after, the dead parts should be washed off, and if any more sinuses

are discovered, they should be laid open freely, and the caustic dressing again applied. When a proper opening has been made, we can often feel, by introducing the finger, the diseased surface of the bone; a narrow blunt-pointed knife should then be introduced, or any convenient instrument, by which the rotten surface of the bone may be scraped off, as well as any part of the ligament which may be found in the same state. The cure will be expedited also by cutting away any callous matter that may be found within the lips of the external opening. In some instances it has taken several months to effect a cure of poll evil; and I have found, from much experience, that cutting freely and caustic dressings are the most effectual and expeditious remedies. When the wound has been brought to a healing state, discharging but little matter, and giving less pain to the animal, mild dressings are most proper; such as Friar's balsam, digestive ointment, &c.

POPPY. The dried heads of white poppies are used in making anodyne fomentations for painful ulcers, tumours, &c. See *Fomentations*.

POPULEON OINTMENT. An ointment supposed to be made from poplar leaves; it is vulgarly named Pompilion. It differs from hog's-lard only in being somewhat rancid, and is therefore inferior to it for medical purposes.

POTASH, Kali, Salt of Tartar, or Salt of Wormwood. Potash in its pure state is a very powerful, but in few cases a convenient caustic, on account of its becoming liquid by exposure to air. When combined with carbonic acid or fixed air, it is rendered mild and fit for internal use; it is then named Carbonate of Potash, and possesses a diuretic power; the dose two or three drams.

POULTICE. Poultices are generally made with bran and linseed meal in the following manner: Pour

boiling water on fine bran or pollard so as to make a very thin mass; then stir in as much linseed meal or oatmeal as will bring it to a proper consistence; a little fresh hog's-lard may also be added. This poultice will answer almost every purpose, or at least it may serve as a basis for every other kind of poultice. Thus if an astringent cataplasm be wanted, add some powdered alum or white vitriol; if an anodyne, a little sugar of lead and a solution of opium; or instead of hot water, use a hot decoction of white poppy heads, or hemlock. If a fermenting poultice be required, some yeast or barm may be stirred in. As an emollient cataplasm, the above formula is as good as any, and perhaps less expensive. In books of farriery are formulæ for ripening digestive and resolvent poultices; but they are unnecessary. The common poultice may be rendered astringent or stimulating in any degree that may be required, by the addition of white vitriol, blue vitriol, vinegar, &c. A poultice should be kept constantly in a moist state, and be in sufficient quantity to retain moisture for some time. A worsted stocking without the foot is very convenient for confining a poultice to the legs, tied above and below with soft list; taking care that it is not so tight as to cause swelling or uneasiness.

PRICKING. In shoeing a horse the nail is sometimes driven in a wrong direction, and the sensible parts are wounded; he is then said to be pricked. The smith often endeavours to conceal the injury by withdrawing the nail, and filling the hole with the head only of a nail. Lameness is not often the immediate consequence, and when it takes place the cause perhaps is not suspected. Sometimes the nail is driven so as not to wound the sensible parts, but so near them as by its pressure to bring on gradually inflammation and lameness; in this case the lameness may not take place till many days after the injury

has been received. When a horse has been slightly pricked, and the nail immediately withdrawn, it may not be followed by lameness; but when the wound is considerable, and particularly if the nail has been suffered to remain, violent inflammation very soon ensues, which generally terminates in suppuration. If the matter is not let out by paring away the horn, it quickly spreads under the horny sole, and upwards through the laminated substance of the foot, and at length breaks out at the coronet. The first thing to be done, when a horse has been pricked, is to enlarge the opening made by the nail in the horny part, and pare away a little of the surrounding sole; some Friar's balsam or tincture of myrrh is then to be poured on it, and the horse should be suffered to stand in the stable without a shoe. If inflammation comes on, which may be known by the heat of the foot and the lameness it occasions, let a poultice be applied. Should the lameness increase, it is probable that matter will form; the part is then to be again pared, and when a drop of dark coloured matter is seen, the opening must be farther enlarged so that a probe may be introduced to ascertain in what direction it has penetrated. As much of the horny sole as has been separated from the sensitive sole by the matter is to be removed, and the diseased part washed with some astringent lotion, such as a solution of white or blue vitriol, or some tincture of myrrh or benzoin; digestive ointment spread on tow is then to be bound on, and the same dressing is to be repeated daily, until new horn is formed on the part. A more detailed account of this subject may be seen in the third volume of *Veterinary Medicine*, p. 151.

PROBANG. An instrument used for removing obstructions in the throat or gullet; or, by being forced into the stomach, to extricate confined air, by

which, in cattle, this organ is sometimes painfully and dangerously distended. (See *Blown*.) Dr. Monro first invented a particular instrument for the latter purpose. Mr. Eager soon after another, for which he was rewarded by the Society for the Encouragement of Arts. The instrument used for bullocks is six feet long, this being the distance from the fore teeth to the first stomach in a large ox. Probangs are now commonly sold by instrument-makers, and in large towns by saddlers.

PROBE. A long smooth instrument of silver or whalebone for searching wounds.

PULMONARY. Any thing that relates to the lungs; hence we have pulmonary consumption, or consumption of the lungs.

PULSE. The beating of the arteries. The horse's pulse is most conveniently felt in that branch of the carotid artery which passes under the jaw bone, in the temporal artery about an inch and a half from the outer corner of the eye, and in the carotid artery at the lower part of the neck, in the course of the neck vein; it may be felt indeed in any superficial artery, but that first named is the best. The number of pulsations in a given time may also be felt by pressing the hand on the left side near the elbow; but in this situation a judgment cannot so easily be formed of several circumstances respecting the pulse which it is necessary to know: that is, whether it be hard or soft, small or full. The pulsation of the arteries depends upon the blood which is thrown into them by the contraction of the left ventricle of the heart; (see *Heart*;) the state of the pulse therefore may indicate the strength of the heart's contractions, the quantity of blood thrown out at each contraction, the number of contractions in a minute or any given time, the regularity of its action and the strength of the action of the arteries. The numerous distinc-

tions made by physicians with regard to the pulse need not be noticed in a Veterinary Dictionary. The principal circumstances to be attended to are, first its frequency, or the number of pulsations in a minute, which in the healthy horse is about forty; next, its strength; when the contraction of the heart is strong, the pulse is felt distinctly, though the artery be pressed moderately with the finger; but when weak, very little pressure will prevent its being felt. When the artery is too irritable, and in strong action, it will contract quickly upon the blood it receives, and the impression or sensation conveyed by the finger will be short, or that which is expressed by hardness; when the swell of the artery is more slow or soft, it denotes the contrary state. Thus there may be a frequent, or as it is more commonly named, a quick pulse, a strong pulse, or a weak pulse, and a hard pulse or a soft pulse. To this may be added the irregular or intermitting pulse, which of course indicates an irregularity in the contractions of the heart, and sometimes happens when the horse does not labour under any serious disorder. Those who wish to attend to the diseases of horses should make themselves familiar with the state of the pulse, both in health and disease; and they will learn from experience, that it will enable them to judge better of the nature and probable event of a disease, than any other single circumstance.

PUNCTURED WOUND. See *Wounds*.

PUPIL. See *Eye*.

PURGATIVES. These are more commonly known, in farriery, by the name of Physic. The most certain and effectual purgative for horses is aloes; but its effect may be promoted; and rendered more safe by the addition of other substances. The following formula is perhaps as good as any that can be employed:

Barbadoes aloes, from half an ounce to an ounce ;

Soap, three or four drams ;

Oil of aniseed, half a dram ;

Ginger, one dram ;

Syrup or treacle enough to form a ball.

The diseases in which purgatives are required are noticed under their respective names. As to the manner of *physicking* horses, as it is termed, it is only necessary to remark, that by giving the horse bran mashes for a day or two previous to the purgative its operation will generally be more safe and expeditious ; that he should be allowed only a moderate quantity of hay the night before the physic is given, and none the following morning until four or five hours after the medicine has been given ; and during the whole it should be given in a very small quantity at a time. About half an hour after taking the physic, a small thin bran mash should be given, and repeated three or four times during the day ; a moderate quantity of water may also be given, at the summer temperature, or with the chill taken off. The next morning the horse should have walking exercise to promote the purging, taking care that he is clothed when taken out, and not exposed to rain or a cold wind ; nor should he be suffered to stand still. If he purge sufficiently, the exercise need not be repeated. During this day also he must have warm bran mashes, a little water with the chill off now and then, and a small quantity of hay. On the third day the purging usually ceases ; he must then return gradually to his former mode of keeping. See *Veterinary Medicine*, vol. i. p. 211 and 227.

Calomel is sometimes a useful addition to purgatives, particularly when a horse has worms, or where considerable purging is thought necessary. Many substances that are employed as purgatives in the

human subject have little or no effect on the horse, even in large doses; among these are jalap, bitter apple, rhubarb, and Glauber's salt. The latter however, as well as Epsom salt, will cause purging when given in large doses; common or table salt will also purge; but these saline purgatives are considered more useful for cattle than horses.

PUS. The white matter contained in abscesses, or discharged from healthy sores.

PYLORUS. See *Stomach*.

Q.

QUARTER EVIL. See *Black Leg*.

QUARTERS OF THE FOOT. See *Foot*.

QUASSIA. An Indian wood, of an intensely bitter taste. It has hitherto been little used as a horse medicine; but may probably be found a useful stomachic joined with aromatics.

QUICKSILVER OF MERCURY. This metal affords many useful medicinal preparations; the principal of which are calomel, corrosive sublimate, red precipitate, white precipitate, ethiops mineral, cinnabar, and mercurial ointment.

QUINSY. Sore Throat. This disease frequently occurs to horses, and is often a symptom of catarrh or cold. The chief symptom is great pain and difficulty in swallowing; it is generally accompanied with fever in a greater or less degree. In the first place bleed freely, then blister the throat. The head should be steamed frequently, and the horse should be offered some good gruel very often, on account of the difficulty with which he swallows. The head should be kept warm with a hood, and the legs well rubbed and bandaged. No medicine should be forced down the throat until the soreness is quite

gone, and he is able to swallow freely; a laxative may then be given, or small doses of nitre and emetic tartar.

QUITTOR. A fistulous sore in the coronet of the foot, generally on the inside. It is caused by bruises, or by matter forming in the lower parts of the foot from pricks in shoeing, bruises from gravel, neglected corns, &c.; and, having no vent below, working its way upward to the coronet. The opening of the quittor is generally small, so as to admit only of a common probe passing in; and on examination, we often find the sinuses or pipes running to a considerable extent. Sometimes the lateral cartilage is affected, and may be felt with the probe; at others the sinus runs downwards, affecting the laminated substance; and in some cases even the coffin bone becomes carious. In slight cases, it will be sufficient to apply a solution of blue vitriol by means of a syringe; but in more severe cases, or such as are of long standing, it will be necessary to enlarge the opening, and destroy the callous sides of the sinus by some strong caustic. I have found corrosive sublimate the most effectual for this purpose. The best mode of applying it is to moisten a narrow slip of paper with butter of antimony, then strew upon it the powdered sublimate, and twist the paper up so as to bring it to a point. This is to be forced into the sinus with a whalebone probe. With these caustic slips of paper the sinuses are to be completely filled. In a few days, what farriers term a *core* will come out, that is, the parts destroyed by the caustic will separate from the living parts, and leave an open healthy looking sore, which is to be dressed daily with a solution of white or blue vitriol, or tincture of benzoin. See vol. iii. p. 179.

R.

RACK BONES. The vertebræ of the back.

RADIUS. The bone of the fore arm.

RAGWORT, ST. JAMES'S WORT, OR STAGGERWORT, *Senecio Jacobæa* of Linnæus. A flowering plant that grows principally on moors and other moist situations; it flowers the second year. The leaves have a roughish, bitter, rather acrid, and very nauseous taste. A decoction of ragwort is said to have been of infinite service in epidemic camp dysentery. The plant is noticed here on account of its being supposed to possess a very noxious quality with respect to horses and cows; though sheep eat it greedily without being injured. See *Lethargy*.

RAKING. See *Back-Raking*.

RAT TAILS. An absurd name given to a scurfy eruption on the back part of the legs, extending from the fetlock upward in distinct lines. After washing the part well with soap and water, apply mercurial ointment, or a mixture of lard and calomel.

REALGAR. Red arsenic. A combination of arsenic and sulphur. It is sometimes used as a caustic.

RECTUM. See *Intestines*.

RED LEAD. See *Lead*.

RED WATER. Under the article *Bloody Urine*, a disease of this kind has been noticed which sometimes happens to horses, and more commonly to mares; but the red water of cattle appears to be of a different nature. This disease often attacks cows, and is generally considered dangerous; unless the animal is seasonably relieved, it commonly proves fatal in seven or eight days. The first appearance that attracts notice is the cow separating herself from the rest of the herd, and having little or no appetite;

the hair stands on end, the eyes are dull, and, when the disease is far advanced, appear sunk in the head; the urine is of a red colour, and voided after a considerable effort. The bowels, at first are generally loose, but soon become costive; a circumstance that must be guarded against. The disease is attended with fever. Give, in the first place, a pound of Glauber's salt in about two quarts of gruel, in order to clear the stomach and bowels; when this has operated, let the following drench be given:

Tincture of opium, half an ounce;

Acetate of lead, one dram;

Catechu, half an ounce;

Gruel, one quart.

Should this fail, the proportion of tincture of opium and acetate of lead should be increased, and perhaps the addition of some powdered alum may render it more effectual. Some writers have recommended turpentine, vitriolic acid, bole, bay berries, &c. This disease must be distinguished from inflammation of the kidneys; in which there is a constant desire to stale, while only a very small quantity of red coloured urine is voided; there is a tenderness of the loins, stiffness of the motion of the hind parts, and fever; here bleeding would be proper, covering the loins with a sheep's skin, a dose of castor oil, and an anodyne clyster. In Sir George Mackenzie's Treatise on Sheep, there is a disease termed Red Water described, which appears to be very different from the foregoing. "It consists in an inflammation of the skin, that raises it into blisters, which contain a thin, reddish, and watery fluid. These continue for a short time, break, discharge this matter, and are followed by a blackish scab. In cases where the disease is violent a little blood should be taken. The sheep should be put into a fold by itself, the blisters slit up, and a little of the infusion of tobacco put into them:

two ounces of sulphur mixed with treacle are to be given for three or four mornings successively. If this is found unsuccessful, mix with the above half an ounce of nitre; after which, a dose of salts is to be given, and the body washed with lime water."

REPELLENTS. Such things as are supposed to possess the power of removing tumours, eruptions, &c., or rather to make them recede from the surface of the body.

RESIN or ROSIN. Yellow resin, mixed with an equal quantity of nitre and liver of antimony, is a good diuretic powder, and may be given in a horse's corn. Resin is used also in the composition of plasters and ointments.

RESPIRATION. The act of breathing; which includes inspiration, or the taking in of air by the lungs; and expiration, or the act of discharging it.

RETINA. See *Eye*.

REVULSION. An old term now in disuse, signifying the drawing of humours a contrary way; thus, in diseases of the horse's head, bleeding in the tail, according to this doctrine, would be recommended.

RHEUMATISM. This disease sometimes affects both horses and cattle. In some cases it is indicated by swelling and tenderness in certain parts; in others there is no external appearance, but the animal becomes lame and feverish. It is generally caused by exposure to cold and rain, particularly after having been heated by exercise. The cure consists in bleeding, moderate purging, and fomenting and embrocating any external swelling that may appear. See *Chill*.

RHUBARB. This is one of the medicines that is deemed useless at the Veterinary College. It certainly cannot be considered as a purgative in regard to the horse; but may possess some useful quality as a stomachic.

RINGBONE. A bony excrescence on the lower part of the pastern, generally, but not always, causing lameness. The only effectual remedy is Firing; and the earlier this is done the better. See vol. iii. page 217.

ROARING. A disease which takes its name from the wheezing noise the horse makes in breathing, when put into quick motion. It is supposed by most veterinary writers to be caused by an effusion of coagulable lymph in the windpipe; and is considered incurable. There are several degrees of this disease, which dealers distinguish by appropriate names; such as a wheezer, a whistler, a high blower, a trumpeter, &c. I believe the disease is sometimes asthmatic. In some instances, but seldom perhaps, it may arise from an effusion of coagulable lymph in the windpipe. It appears to me, that the obstruction to breathing which causes roaring is seated in the larynx. Some time ago, I examined a very bad roarer, that was destroyed on account of the disease, as it rendered him nearly useless; and found an ulcer within the larynx, on one side only; all other parts healthy: since that I have met with a similar case.

ROSEMARY. The essential oil of this shrub is a useful ingredient in stimulating ointments, liniments, and embrocations. It may be mixed with camphor and spirit of wine; and these, with the addition of soap, form the celebrated opodeldoc. Internally, it is a good carminative, cordial, and stomachic. The dose of the essential oil, which is the best form it can be used in, is two or three drams.

ROT. A term applied by writers on cattle medicine to a disease in sheep, which appears to resemble pulmonary consumption, complicated with dropsy; as on dissection the lungs are found knotted with tubercles and abscesses, and there is generally water in the chest or belly. The disease often af-

fects the liver also, and sometimes other internal parts, as the mesenteric glands, &c. The rot has therefore been distinguished by different names, such as the pulmonic, hepatic, and general rot. Bakewell, Mr. Lawrence says, was strongly of opinion, that flooded lands, and their premature unsubstantial herbage, ever occasioned the rot, which was not induced by rains, the water of which did not flow, or by springs. It seems he could rot his sheep at will by flooding his land, which he was in the habit of doing with such of his improved stock as he wished to keep out of other breeders' hands. Land flooded after the middle of May, of whatever kind the soil might be, would, in his opinion, infallibly rot the sheep. Mr. Lawrence, however, very properly rather attributes the disease to the colds they catch in these wet situations, and which are afterwards neglected. As the disease when established is incurable, prevention is a matter of great importance; and Mr. Lawrence observes, should necessity oblige the farmer to feed his sheep on swampy grounds, wet fallows, or lately flooded lands, two precautions may ensure the safety of his flock; namely, not to suffer the sheep to rest, far less to remain on such dangerous layers; but to pick as much grass as may be deemed expedient, and then be immediately driven either to high and dry grounds, or folds where they may rest, particularly by night, and receive a sufficiency of dry food, either hay or straw. An ingenious treatise on this subject has been published by Dr. Harrison, who seems to be of Bakewell's opinion as to the origin of the disease; he does not, indeed, attribute it to eating of rank pasturage, but rather to some noxious invisible vapours, which arise from land that has been flooded: he agrees, however, with Mr. Lawrence as to the mode of prevention. It is an extraordinary circumstance,

that in the beginning of this disease, sheep are more disposed to feed than usual, and increase in fatness.

ROWELS. These may be considered as artificial abscesses or drains. The usual method of inserting a rowel is to make an incision in the skin about an inch in length, with a pair of strong short-bladed scissors. The cellular membrane under the skin is torn with the finger all around the incision to the extent of about an inch, so as to admit a circular piece of leather with a hole in the centre, wrapped in tow, and smeared with turpentine or digestive ointment. The parts in which rowels are usually inserted are the chest, belly, thighs, and under the jaws.

RUE. This plant has been highly extolled by writers on Farriery. It has a strong unpleasant smell, and a bitter, hot, penetrating taste. The leaves are so acrid, that by much handling they have been known to irritate and inflame the skin. The imaginary quality of rue, in expelling and resisting contagion, is now laid aside. It is, doubtless, a powerful stimulant, and is considered, like other medicines of the fetid kind, as possessing attenuating, deobstruent, and antispasmodic powers. Gibson says, that it is of very general use; and if the bruised leaves are thrust into the horse's ears, it will remove a fit of the staggers!

RUMINATION. Chewing the cud.

RUNNING-THRUSH. See *Thrush*.

RUPTURE. *Burstiness, Film-broken.* A swelling caused by the protrusion of some part of the bowels out of the cavity of the abdomen, into a kind of sac, formed by that portion of the peritoneum which is pushed before them. In the horse ruptures generally happen in some part of the belly, and may be distinguished from other swellings by disappearing when pressed upon by the fingers, by which the gut is put back into its natural cavity, and return-

ing as soon as the pressure is withdrawn. A rupture sometimes happens in the scrotum, or testicle bag. I have known several cases of rupture, both of the belly and scrotum, where the horse did his work as usual, and suffered no inconvenience from it. The following case, in which an operation was successful, I have received from a correspondent of considerable experience. "A colt was gored by a bull, the rim (muscles of the belly) was broken at one place, the skin at another; the intestine ran between the rim and the skin, but did not come through the skin. He was thrown on his back, the intestine was returned, and the skin sewed up. A wide bandage was then applied, and in a short time he became perfectly sound, and sold for a good price." In the human body, the protruded gut is sometimes strangulated; that is, it is so compressed by the ring or aperture through which it has passed, as to become inflamed; attended of course with violent colic. It is often found necessary in such cases, to open the skin carefully, and by a blunt-pointed knife, guided by the finger, to enlarge the opening or ring, so that the bowel may be returned. Gibson relates a case of strangulated rupture in a horse, which proved fatal.

S.

SACRUM. That part of the back bone from which the tail proceeds.

SADDLE-GALLED. See *Back, Sore*.

SAFFRON. A medicine formerly much used by farriers; but is now known to have very little, if any, medicinal power.

SAGAPENUM. A gum resin, sometimes prescribed in coughs, and antispasmodic balls.

SAGE. The leaves of sage are recommended by Gibson, as a means of sweetening the blood.

SAL AMMONIAC, CRUDE SAL AMMONIAC or *Muriate of Ammonia*. Gibson prescribes it in epidemic catarrh, or influenza, in the dose of one ounce, with nitre, soap, and camphor. It is more commonly, however, used as an external application in strains and bruises, dissolved in vinegar and water.

SAL PRUNELLA. A compound of nitre and sulphate of potash.

SALIVA, Spittle. The juice secreted by the sublingual and other glands, for the purpose of moistening the food; perhaps, it assists also in its digestion.

SALIATION. A profuse and continued flow of saliva.

SALLENTERS. This is the same disease as mallenders, only occurring in a different situation; that is, in the bend of the hock. See *Mallenders*.

SALT. Common or culinary salt may be given both to horses and cattle as a laxative. The dose from four ounces to half a pound dissolved in two quarts of gruel. Castor oil is in some cases a useful addition; that is, when the bowels are supposed to be in a tender or irritable state.

SALT OF TARTAR and WORMWOOD. See *Potash*.

SALT-PETRE. See *Nitre*.

SAND CRACK. A perpendicular fissure or crack on the side or quarter of the hoof, generally on the inside, on account of its being the weakest. When a sand crack takes place in the hind foot, it is commonly in the front part of the hoof. Sand cracks seem to arise from a tendency in the horny matter to contract at a time when it is rather brittle. The crack sometimes does not extend to the sensible parts; at others it is deeper, and causes considerable lameness. The shoe being removed, the extent of the crack is to be carefully examined; if it be super-

ficial, it will be sufficient to fill the crack with the subjoined composition, and by keeping the foot cool and moist, remove the contractile disposition by which the crack has been caused; but when the crack has extended to the sensible parts, there will generally be seen some fungous flesh, which is caused by the pressure of the edges of the cracked horn upon the laminated or elastic membranes. (See *Foot*). Such horn is to be carefully removed with a small drawing knife; some caustic is then to be applied to the fungus, the reproduction of which must be prevented by binding on it firmly a pledget or roll of lint or tow dipped in tar, or tar ointment, which must be continued until the fungus is destroyed. The whole foot is to be kept moist with a bran poultice for a few days, or until it has become cool; and the lameness is removed. A shoe is then to be applied so as not to bear on the diseased quarter; that recommended for corns will best answer the purpose. When this has been done, the pledget of tow should be removed, the crack filled with the composition, and the horse turned to grass in some soft meadow ground. Before the shoe is applied, the quarter in which the sand crack is should be made lower than the other; and it is necessary to examine the foot once in three or four weeks, as the horn will in this time have grown down, and be again receiving pressure from the shoe. By this treatment of the disease the crack will be found to recede from or be more distant from the coronet as the hoof grows, till at length it totally disappears.

Composition for Sand Crack:

Bees' wax, four ounces;
Yellow resin, two ounces;
Common turpentine, one ounce;
Tallow or suet, half an ounce.—To be melted together.

SANIES. A bloody or greenish matter, which is sometimes discharged from foul ulcers.

SARSAPARILLA ROOT. This has not been hitherto employed in veterinary medicine, nor does it appear to possess sufficient activity ever to obtain a place in our *Materia Medica*.

SASSAFRAS. The essential oil of sassafras wood possesses a stimulant and carminative power; the dose about one dram.

SAVINE. The leaves of savine are of a bitter acrid taste, and have been considered a good remedy for worms; their efficacy in this respect, however, is very doubtful. The juice has been recommended as a cleanser of foul ulcers, and the dried leaves in powder have been used for the same purpose. Upon the whole, savine does not appear to merit much notice as a veterinary medicine.

SCAB IN SHEEP. This disease has been already noticed under the head *Mange*.

SCALD. See *Burn*.

SCALDING MIXTURE. Under the head *Poll Evil*, this mixture has been spoken of; it may not be amiss, however, to give Gibson's composition, or scalding mixture. Take

Corrosive sublimate,	} of each two drams;
Verdigris,	
Blue vitriol,	
Green copperas,	half an ounce;
Honey or Egyptiacum,	two ounces;
Oil of turpentine,	} of each eight ounces;
Train oil,	
Rectified spirit of wine,	four ounces.

To be applied scalding hot, and confined in the part by stitches.

SCAMMONY. A powerful purgative in the human body; but in the horse it does not appear to be more active than aloes.

SCAPULA. The shoulder blade.

SCARF SKIN. See *Cuticle*.

SCARIFICATION. An incision of the skin with a large lancet or an instrument made for the purpose. In the horse, dropsical swellings of the belly or sheath are sometimes scarified with good effect.

SCIATICA. A rheumatic affection of the hip joint. This complaint is often imaginary, and almost always conjectural; that is, I believe its existence is not demonstrated by any particular symptom. See *Rheumatism*.

SCIRRHUS. An indolent hard tumour.

SCLEROTIC-COAT. See *Eye*.

SCOURING. A scouring or purging, is a common disease among all our domestic animals; and in some, it is dangerous, and very difficult to cure. Under the article *Diarrhoea*, I have noticed the disease as it affects horses; but in cattle, this complaint is sometimes very serious, and farmers often sustain a considerable loss by it. When the purging has continued long, it produces general weakness and loss of flesh. The animal becomes hide-bound, and has a rough staring coat. The dung is thin and slimy, and in bad cases, air bubbles arise on its surface. The disease appears to arise from the animal being overheated in driving, and particularly by being suddenly cooled when in this state; and by want of sufficient nourishment, especially in milch cows. Taking the animal in is the first step towards a cure. The diet should be nutritive, consisting of oatmeal or wheat flour gruel, good hay, oats, &c. As there appears to be an acrid kind of bile formed, which probably is the principal cause of the disease, and depends on a morbid action of the liver, it will be proper to give, for two or three mornings successively, a dose of some mild mercurial with a little rhubarb and castor oil. During this time, wheat flour

gruel should be given several times a day. The acrid bile having been got rid of by these means, a few doses of astringent medicine will probably put a stop to the disorder. When the scouring has ceased, the animal should be brought gradually to her former habits, taking particular care that she is not exposed to rain or cold winds, or put into wet pasture. It should have been observed, indeed, that as the disease is often caused by checked perspiration, proper means should be adopted for re-establishing that salutary excretion or discharge. (See *Perspiration*.) A more detailed account of this disorder may be found in vol. iv. page 56.

SCRATCHES. Troublesome ulcerations about the heels, in consequence of ill treatment, filth, and negligence. See *Grease*, and *Cracks*, of which this is the worst stage.

SCROTUM. The bag, or covering of the testicles.

SECRETION. The word secretion is used to express that function, by which a gland separates from the blood a particular substance; thus the liver secretes bile, the kidneys urine, the salivary glands saliva.

SEDATIVES. Medicines that diminish the animal energy, without destroying life.

SEMINAL WEAKNESS. An involuntary discharge of semen is implied by this term; but in farriery it often means a mucous discharge from the urethra. Throwing cold water on the part is, perhaps, the best remedy. Gibson recommends one ounce of Venice turpentine, mixed with the yolk of an egg.

SEPTIC. Any thing which produces or promotes putrefaction.

SERUM. The watery part of the blood.

SESAMOID BONES. Two small bones on the back part of the fetlock joint.

SETON. A piece of cord or tape passed under

the skin, by means of an instrument called a seton needle. Setons are sometimes made in sinuses, such as fistula or poll evil, in order to make a depending opening, so that the matter may run off freely.

SHEDDING OF THE SEED. See *Seminal Weakness*.

SHELL-TOOTH. The corner tooth, or last which the horse changes, is so named from its supposed resemblance to a shell. Horses are said also to be shell-toothed, when they preserve a mark in the corner teeth beyond the usual period.

SHOEING. In shoeing a strong well-formed foot there is no great difficulty; but in feet of a different description, considerable care and skill are often required both in the preparation of the foot, and in the application of the shoe. The bottom of a well-formed foot is in a small degree hollow; that is, the crust is rather higher than the sole, the frog large and solid, the bars open and distinct: The only preparation necessary in such a foot is, to make the bottom of the crust level by means of a rasp, to scrape off any loose horn there may be in the sole, and to leave the frog and bars untouched. The toe of the shoe should be about an inch wide, and half an inch thick; the heel a little narrower and thinner. That surface of the shoe which bears on the ground, should be perfectly flat; that next the foot, particularly towards the toe, should be a little hollowed; for even in good feet, the sole towards the toe is often as high as the crust, and consequently would be pressed upon by the shoe, were its surface made flat. The toe of the shoe, being the part that wears most, should be formed of steel. The nails should be placed as near the toe as is consistent with the security of the shoe, that there may be as little restraint as possible upon the motion of the heels, and quarters of the hoof. When the bottom of a horse's foot is flat or convex, instead of being rather hollow, it is at the same time

much thinner, and less capable of bearing pressure: The shoe for such a foot should be wider, and more concave on its inner surface than otherwise. The crust of flat or convex feet is usually weak; therefore, great care is required in nailing on the shoe; and this will appear the more necessary, when it is considered how much pain the animal must suffer, and what severe lameness may ensue, should he happen to lose a shoe during a journey. Horses that have long and oblique pasterns, with weak low heels, require a shoe rather thicker at the heel than that just described; and when the pasterns are short and rather upright, and the crust of the heels deep and strong, a thin heeled shoe is proper. Such heels generally require to be lowered with the rasp or drawing knife before the shoe is put on. Mr. Coleman observes, there are two circumstances necessary to be attended to in shoeing, viz. to cut the hoof and apply the shoe. Before the hoof is protected by iron, some parts require to be removed and others preserved. This is even of more importance than the form of the shoe. But many have attended chiefly to the form of the shoe, and not to its application, or to the hoof; and this error has done more mischief, and made more enemies to the Veterinary College, than all the prejudices and calumnies of grooms and farriers. The first thing, he says, to be attended to, is to take away a portion of the sole between the whole length of the bars and crust with a drawing knife; for the heels of the sole cannot receive pressure without corns. To avoid this, the soles should be made concave, so as not to be in contact with the shoe. If there be any one part of shoeing more important than the rest, it is this removal of the horn between the bars and crust. When this is done, the horse will always be free from corns, whatever be the form of the shoe. Beside this, the

heels of the shoe should be made to rest on the junction of the bar with the crust. If a shoe does not leave ample space for a picker to be passed under it, either the shoe or the sole should be made more concave. When the sole appears in flakes and thick in substance, it will be better to make the sole sufficiently hollow to admit of the application of a flat shoe, as it will rest only in that case on the crust. But when the sole will not allow of being thus pared, the shoe must then be made sufficiently concave on the surface next the foot, that the picker may be passed easily under it. But even in flat or convex feet, the horn is generally sufficiently strong towards the heels to allow of being pared moderately and made concave. In shoeing the hind foot it will be sufficient to pare off the horn from the sole, and make an even surface for the shoe, which may always be flat on both surfaces; as no inconvenience would arise if it happen to bear a little on the sole. It is usual to turn up one or both heels of the hind shoe to prevent slipping. This should not be done unless the horse is worked in situations which render it necessary; and then the outer heel only should be turned up, and the inner heel made thicker than the toe and quarter, so that both heels may be equal. It is needless to describe here the various kinds of shoes, that have at different times, and by different authors, been recommended. The feet of horses are often variously deformed, either by bad management or accidentally, and no one form of shoeing or mode of paring the foot can be applied indiscriminately. The reader who wishes for a more particular account of this subject is referred to Mr. Coleman's splendid work on the Structure, Economy, and Diseases of the Horse's Foot, and to the author's first volume of *Veterinary Medicine*.

SINew. See *Tendon*.

SINEW SPRUNG. A wound in the back part of the fore leg by the hind foot. This does not require any peculiar treatment, (see *Wounds*.) The term Sinew Sprung is also applied sometimes to strains in the back sinew.

SITFAST. A horny kind of scab, which forms on the skin in consequence of a saddle-gall. Let it be rubbed with camphorated mercurial ointment, until it is loosened in some degree; it is then to be torn off with pincers, or gradually dissected off with a knife. The sore is to be dressed two or three times with a solution of blue vitriol; it will then gradually heal.

SLEEPING EVIL. See *Lethargy*.

SLIPPING. See *Abortion*.

SOAP. A substance much used in veterinary medicine. Given internally its most conspicuous effect is that of a diuretic; many other virtues have been attributed to it, probably without sufficient foundation. I believe, that good English soap is just as useful a medicine as that called Castile, Venice, or by any other foreign name. It facilitates the operation of aloes or purgative compositions, and is almost an indispensable ingredient in diuretic balls; not only on account of its efficacy as a diuretic, but from its giving a convenient and durable consistence to the mass. The usual dose of soap is about half an ounce; but it is often given in much larger doses, (see *Dropsy*.) In a letter from an experienced correspondent, I am informed that he once gave,

“ Soft soap, eight ounces;
 Elecampane, one ounce;
 Flowers of sulphur, two ounces;
 Flour of mustard, two spoonfuls;—in milk—

for a dropsy in a colt, but without any good effect: it is remarkable, however, that it did not make him

sick." Soap is a useful ingredient in embrocations.

SOILING. Giving horses green food in the stable or under cover. This is often a useful substitute for turning horses to grass, particularly when green food of good quality can be procured, and when they can have the advantage of a large airy place, where they can move themselves freely without being tied up. Horses that have been fired or blistered for strains, &c., when turned to grass, often injure themselves by galloping and leaping over ditches and hedges; and the good effect that might otherwise have resulted from the operation is lost. Soiling, therefore, is on many occasions a better kind of rest or relaxation for a horse, than a run at grass. Lucerne, vetches, and clover are the best food that can be given them. In an economical point of view, soiling both for horses and cattle is probably worth attention.

SOLE. See *Foot*.

SOUNDNESS. This term, as it applies to horses that are purchased or sold, has rather an indefinite meaning; and the "glorious uncertainty of the law" is perhaps on no occasion better exemplified, than when disputes upon this subject are decided in a court of law. An inexperienced purchaser should always procure the assistance of a professional person; and if such cannot be had, he should have a written warranty with the horse upon a proper stamp, in the following form:

Received of Mr. —, the sum of —, for a bay gelding, warranted perfectly sound, free from vice or restiveness of every kind, both in and out of the stable; not a crib-biter, and between five and six years old.

Some further remarks on this subject may be seen in vol. iii. p. 241.

SPASM. An involuntary and continued contraction of muscles: thus locked-jaw depends upon a spasmodic contraction of its muscles.

SPAVIN. A disease of the horse's hock, which generally causes lameness. Spavins are of two kinds, the bone and the bog or blood spavin. The former consists of a bony enlargement of the inside of the hock-joint, towards the lower part; the latter of a soft but elastic tumour, a little higher and more on the inside, or towards the bend of the joint. The most effectual remedy for bone spavin is firing, and if it be done at an early period of the disease, it often cures it. In obstinate cases, I have known the bony swelling punctured in several places, and some blistering ointment mixed with a small proportion of corrosive sublimate rubbed in. This produces a high degree of inflammation, and is sure to leave a permanent blemish; but, in some instances, has effected a cure. Another mode of treating bone spavin is to make an incision in the skin with a knife, or bore a small opening in the bony swelling with a hot iron, and introduce some sublimate or arsenic, and confine it with a plaster. This generally occasions more violent inflammation than the former, and often excites symptomatic fever: in one instance, however, though for a time the horse's life was in danger by the symptomatic fever that was excited, the result was a considerable diminution of the lameness, so that the horse became in some degree useful again. These, however, are remedies I should be loath to have recourse to; but firing, if seasonably employed, I have in many instances found effectual. Bog or blood spavin does not often cause lameness, except when the horse's work is severe, as in hunting. This complaint, I believe, is seldom removed; and though it may, when large, render a horse unfit for severe exertion, it is rarely an impediment to

moderate work. If any thing be done, repeated blistering is perhaps most likely to be beneficial. Horses most disposed to spavin are those that are cat-hammed, or have their hocks inclining inward; and this tendency is promoted by making the outer heel of the shoe higher than the inner heel, a practice that is too common. Another cause of spavin is working a horse at too early an age, particularly when he is employed in work that requires considerable exertion of the hock-joints, such as leaping, or drawing heavy burthens.

SPEEDY CUT. Cutting on the inside and lower part of the knee-joint. This kind of cutting takes place in going at a full trot or gallop. See *Cutting*.

SPERMACETI. An unctuous substance taken from the head of the whale. It is not used internally for horses: melted with oil and wax it forms an emollient ointment, named *Spermaceti Ointment*.

SPERMATIC CORD. The vessels, &c. by which the testicles are suspended; consisting of the spermatic artery and vein, the *vas deferens* or seed duct, cremaster muscle, and cellular membrane.

SPHINCTER. A name given to muscles, whose fibres are arranged in a circular direction, and whose office is to shut up the parts to which they are attached. Such are the sphincter or neck of the bladder, and the muscle which closes the fundament.

SPINE. The spine of the neck and back is composed of many small bones named *Vertebræ*. Seven belong to the neck, eighteen to the back, six to the loins, five to the sacrum; and in the tail there are about thirteen. Each vertebra is composed of a porous or spongy substance, termed its *Body*; and parts projecting from it, named *Processes*. The processes of the *vertebræ* unite to form a canal through which the spinal marrow passes; and by some of these processes the *vertebræ* are articulated or join-

ed to each other, as well as by their bodies; by which means the surface of attachment is much increased, and the strength of the spinal column is rendered very great. Though but little motion is allowed between any two vertebræ, yet the flexibility of the whole spine is considerable; by which wise contrivance the spinal marrow is not liable to compression. In old horses, the ligaments connecting the vertebræ and the intervening cartilages become bony, so that great part of the back sometimes becomes inflexible. The sacrum, which, in the young colt, is composed of five bones, before he arrives at maturity is, by a similar process, formed into one. The spine of the horse's back is not unfrequently injured, and sometimes broken. When fractured, the case is absolutely incurable; and in slighter injuries, though the horse's health may not suffer, he seldom recovers so as to be serviceable.

SPIRIT. A name given to any fine volatile fluid, which evaporates in a low degree of heat, such as ether, spirit of wine, &c. The name, however, is now generally confined to alkohol, which is commonly named Spirit of Wine. It is much used in medicine, in making tinctures, &c., and is an ingredient in many of the preparations kept for external use; such as opodeldoc, Friar's balsam, &c. In its pure state, it is distinguished by the name of Rectified Spirit; and when diluted with an equal quantity of water, it is called Proof Spirit.

SPLEEN, or MILT. One of the viscera of the abdomen. Its use is not known.

SPLENTS. These are bony excrescences, which grow on the inside of the shank bone. They seldom occasion lameness, unless situate so as to interrupt the motion of the knee-joint, or interfere with the back sinew or suspensory ligament of the leg. Should a splent occasion lameness, which is sometimes the case,

merely from the ossific inflammation, let it be bathed with camphorated spirit, or spirit and vinegar; or let some soft linen be moistened with these and bound on it, keeping it constantly moist. This, in a few days, will generally remove the lameness, but the splent will remain. Whenever it is thought necessary to attempt the removal of a splent, repeated blistering is, I believe, preferable to the more severe measures recommended in books of farriery. See vol. iii. p. 213.

SPRAIN. See *Strain*,

SQUILL, or SEA ONION. Squill carefully dried and powdered is a useful medicine in chronic cough; it is generally joined with gum ammoniacum and other expectorants. The dose of dried squill is from one dram to two; of the fresh squill, half an ounce to one ounce. Squill is sometimes used in the form of a tincture, both spirituous and acetous. The former is made by putting four ounces of powdered squill into two pints of proof spirit, shaking the mixture frequently. In about eight days the tincture may be strained for use. The acetous tincture is made in the following manner:

Take of,

Fresh dried squill, half a pound;

Vinegar, three pints;

Proof spirit, four ounces;

Macerate the squills with the vinegar in a glass vessel, with a gentle heat, for twenty-four hours, frequently shaking or stirring it; then press off the liquid part, and set it aside till the foul parts subside. Pour off the clear liquor, and add the spirit. The vinegar of squill, made into a syrup with honey, is named *Oxymel of Squill*.

STABLE MANAGEMENT. The preservation of health is certainly a matter of great importance; and as the construction and management of a sta-

ble are materially connected with the prevention of disease, some concise observations on the subject may not be deemed superfluous. Stables should be built on a dry soil that is somewhat elevated; or at least, they must not be built in a hollow, or in the neighbourhood of boggy or marshy land. Stables should be large in proportion to the number of horses they are to contain; perhaps no stable should be made to hold more than five or six, as many inconveniences arise from keeping too many horses in the same apartment. Not only is the air thereby much more vitiated, but the rest and sleep so necessary to repair the fatigues of the day, are thus prevented or disturbed. Some horses will not sleep or even lie down, unless perfectly at their ease; and hence, in large stables, that are made to contain a dozen or more horses, as is often the case in livery stables, and such as are attached to large inns, the frequent entrance of grooms, ostlers, and other persons with lights into the stable, must be a great disturbance to horses that are fatigued and in want of rest. Double-headed stables are bad, not only on account of the number of horses that are kept in such stables, but from the accidents that are likely to happen from their kicking each other. The roof of a stable should be lofty; when it is low, scarcely any mode of ventilation can be effectual without exposing the horses improperly to a draught or current of air. However convenient it may appear, it is a bad plan to have the hay-loft over the stable: the most wholesome stables are those where nothing intervenes between the roof of the building and the floor; and I have had occasion to observe, that roofs made of unplastered tile form the best mode of ventilation. The walls of the stable should be of stone or brick, which are not so penetrable by heat as wood; consequently are

warmer in winter and cooler in summer. The width of a stall should not be less than six feet; the floor should slope from the manger backward, in the proportion of one inch to a yard. The partitions of the stalls should be sufficiently high and deep to prevent the horses from injuring each other and themselves. I have seen two cases, where a horse in kicking got his hind leg over the post at the end of the stall: one of them died from the wound he received, the other was recovered with difficulty. The floor is usually made of pebbles or hard brick; if the former are used, they should be small and well rammed, so that the surface may have no inequalities. With respect to the rack and manger, the plan represented in plate 4, vol. iv. of the *Treatise on Veterinary Medicine*, and described in page 144, has been found to possess all the advantages there described. The admission of a sufficient light into a stable is a point that ought to be attended to. It has been supposed, that horses feed best in the dark, but this is by no means true. Window-shutters are useful, as they may serve occasionally to darken the stable during the day, that a horse may be induced to lie down and get more rest than he otherwise would. Making the walls of a stone or dove-colour is preferable to having them white-washed. The windows should be sashed, and should be made to draw down from the top, as well as to be thrown up from below. In the present improved state of stable management, it is needless perhaps to observe, that nothing which produces an offensive smell, (for horses are very delicate in this respect,) should be kept in or near a stable, and that the stable doors and windows should be thrown open while the horses are out at exercise. The litter, during the day, should be removed; in good weather it may be placed outside the door, so that the foul vapours and moisture may escape.

Horses that work hard, such as post and coach-horses, should always be well littered. To finish the subject of stable economy, (for we say nothing here of feeding,) some remarks must be made on currying or dressing horses. Friction on the horse's skin is necessary, not only to keep him clean; it serves also to promote the insensible perspiration, and by the exercise it occasions, the free circulation of the blood is at the same time promoted: but in the moulting seasons, particularly in that which happens in spring, the curry-comb should be laid aside. This important subject has been more minutely explained in the first volume of the *Veterinary Medicine*, in the chapters on *Condition, Stable, Feeding, and Exercise*.

STAG EVIL. See *Locked Jaw*.

STAGGERS. This disease has been usually divided into two kinds; viz. the sleepy and the mad staggers. The latter disease is noticed under the head *Brain, Inflamed*, the former under that of *Lethargy*. I have there observed, that the disease described by Mr. Poole under that name, as having occurred so frequently and proved so fatal; before the moors were enclosed, differs from the disorder which in the first volume of the *Veterinary Medicine* has been named Stomach Staggers, in the length of time it continued before the animal died, which was, he says, sometimes two months. The disorder, therefore, which he describes, though resembling staggers in some respects, is probably of a different kind, and caused by the narcotic or other poisonous qualities of ragwort (see *Ragwort*), the operation of which is perhaps promoted by the cold and exposed situation in which the animals are kept. In vol. iii. p. 83, a disease is described, the symptoms of which nearly resemble those of stomach-staggers, which raged with great violence in Glamorganshire. "In one year," my correspondent at Swansea informed

me, "a neighbour of ours lost more than a hundred horses by it, and the next year we lost about thirty. The symptoms you mention as distinguishing stomach-staggers are exactly such as occur here; and the distinction you point out between this and brain-staggers is correct; but, beside the symptoms you mention, the animal is subjected to a general convulsive affection, frequently attempts to stale, discharging a little urine at a time, by shoots, as if convulsed; and most commonly the horse's jaw is locked some time previous to his death." Symptoms of stomach or symptomatic staggers: the horse hangs down his head or rests it in the manger; appears drowsy, refuses his food; the tongue and mouth are tinged of a yellowish colour; the membrane under the eye-lid is generally more deeply tinged, approaching to a dusky orange colour. There is a slight convulsive motion or twitching of the muscles of the chest, the fore legs appear suddenly to give way at times, as if the horse would fall, but this seldom happens; and he rarely lies down, unless the disease is going off, or death is approaching. The pulse is never affected in the early stage of this complaint, but when the disease continues four or five days, inflammation of the bowels and lungs sometimes takes place. The disease is always attended with costiveness, and the dung that is drawn off by raking is generally hard and slimy. The urine is generally in small quantity; and in the latter stage of the disorder I have known a retention of urine take place, probably from a paralytic state of the bladder. I have sometimes observed, that on opening the stable-door, the horse appears to be roused for a time, pricks up his ears, and neighs. In the latter stage of the disease the jaw sometimes becomes locked. It has been clearly proved, by opening horses that have died of this complaint, that the symptoms arise

from the stomach being crammed or distended with dry undigested food; but it has not been clearly ascertained what it is that causes this loss of power in the stomach, in consequence of which it becomes incapable of performing its functions. From considering the variety of circumstances and situations in which the disease takes place, it appears probable that different causes may produce the same disorder, but in various degrees. The lethargy described by Mr. Poole, which appears to be caused by the plant ragwort, is perhaps the same disease as that which occurred near Swansea, only in a less acute form; and the cases that have come under my observation, though originating perhaps in a different cause from either of the former, is precisely the same disorder; in a more acute form than that caused by ragwort, but less so than the disease which appeared near Swansea. Mr. Poole appears to be an accurate observer, and it is to be regretted that he did not examine the horses and cows that died of this complaint, and prove, by an experiment, that ragwort really possesses that poisonous quality which he attributes to it. It is possible that the disappearance of the disease may have been occasioned by the improved state of the land, and a want of noxious exhalations in consequence of draining, &c. The staggers which proved so fatal in Glamorganshire, I am inclined to believe, were an epidemic, or rather an endemic and contagious disorder. The gentleman of Swansea, who favoured me with his observations on this disorder, says, "I strongly suspect it arises from some poisonous plants in our pastures, which flourish only to a poisonous extent at some particular times, and which have not hitherto been detected. I have mentioned our horses having been attacked the year following our neighbour's great loss, and when they were free from it. Most of our horses

were purposely kept in the stable; and I have some idea that they were fed upon hay of the same year that our neighbour's horses were fed upon the preceding year." In another part of the letter, he says, "Our neighbours firmly believe it is contagious: they took every precaution to prevent contagion, and the disease left them. I was incredulous, and at this time we had not suffered: a horse from their neighbourhood came to graze in some fields through which our horses passed; he died of this disorder, and was left unburied: from this time the disorder began with us; but not knowing the circumstance of the horse remaining unburied, I took no precaution. The valuable horse before-mentioned was taken ill the next day, and soon died." In the cases of staggers which I have seen, and they are numerous, the disease has never appeared to originate in contagion or infection. When it has occurred at grass, it is generally about autumn, and frequently in meadows adjoining rivers, and other situations where the grass at that time is rank, and possesses but little nutriment. The humid and cold atmosphere in such places may perhaps contribute, in no slight degree, to the production of the disorder. The cases of staggers I have met with which occurred in stables, have appeared to arise from the horse eating too greedily, swallowing his food when imperfectly chewed, or eating freely of food that is difficult of digestion. Young vigorous horses may digest the most unwholesome food; but such as have been debilitated by hard usage, and are rather advanced in age, become, like a modern bilious man, very weak in their digestive organs, and, when improperly fed, liable to apoplexy or staggers. I am convinced, that the only remedy for this disorder is a mixture of a powerful stimulant with a purgative. From whatever cause the disease may proceed, it has been clearly proved, that the stomach is

loaded with undigested food, from a loss of vital energy; I would therefore advise, in the first place, the following ball to be given. It must be observed, however, that the veterinary practitioner is seldom consulted until the disease has made some progress; and it is owing, perhaps, more to the inattention of the proprietor of the horse, than the obstinacy of the disease, that it so often proves fatal.

The ball:

Calomel, three drams;

Carbonate of ammonia, two drams;

Ginger, three drams;

Aloes, six drams.—Syrup enough to form a ball.

The hard dung should be drawn from the rectum, and opening clysters injected. The ball should be followed by some stimulating fluid, which should be frequently repeated. When the dung becomes soft, and the horse appears to be getting better, let him drink frequently oatmeal or wheat-flour gruel; a little cordial medicine may also be given, but he must be fed with great care, and be allowed no hay, for a few days after his recovery. See vol. iii. p. 80. The stimulating fluid above mentioned may be composed of warm salt water, with a little compound spirit of ammonia or mustard.

STALING OF BLOOD. See *Bloody Urine* and *Red Water*.

STALING, DIFFICULTY OF. See *Urine, Suppression of*.

STAVESACRE. These seeds are sometimes used to destroy lice, either in powder or decoction; internally they are poisonous: two drams were found sufficient to destroy a glandered horse.

STAVERS. See *Staggers*.

STEEL, SALT OF. This preparation is now called

sulphate of iron: it is a good tonic medicine; the dose two or three drams.

STERNUM. The breast bone.

STIFLE JOINT. This joint in the horse corresponds with the horse's knee.

STOMACH. The horse's stomach is very small, considering the bulk of the animal, and in form somewhat like a bagpipe. It is situated behind the diaphragm, principally on the left side, with its expellent orifice extending across the spine to the right. It has two surfaces, which may be called its sides, though one is posterior and the other anterior; and two extremities, a large and small: the superior surface of the latter receives the œsophagus or gullet, and is termed its Cardiac Orifice; while the former ends in the duodenum, and is termed its Pyloric Orifice: this extremity, when the stomach is distended, is the most posterior of the two. The situation of the stomach varies in some degree with its distention: when moderately filled, it lies in an oblique transverse direction, with its great extremity a little forwards, and its two orifices superior, but the cardiac most so; but when the stomach is much distended, the left extremity will press upon the diaphragm, and the right will be carried more posteriorly. In oxen and sheep, where the first stomach is very large, it is found, when distended, to have its left extremity carried quite up into the left iliac region, that is, between the last rib and the hip, in which part it is punctured when a bullock is blown or hoven; but such an idea of the horse's stomach would be very erroneous; for this animal has a very small one, and therefore its situation can never be such. The stomach has externally a covering from the peritoneum, which adheres closely to it by means of its cellular membrane; its middle portion consists

of muscular fibres, which are stronger in the horse, than in oxen and sheep. These fibres run in various directions, but are principally longitudinal and circular; the latter are very thick and strong around the cardia, or that extremity in which the gullet terminates. The inner covering of the stomach consists of two portions, a cuticular and a villous. This kind of cuticular covering to nearly one half of the stomach is peculiar to such animals as appear destined to live on grain, as horses, asses, rats, and mice. It may be considered in a slight degree as a species of gizzard, resembling the structure of those animals who have organs to make up for the want of teeth. For a horse has not the means of re-mastication which oxen and sheep possess; nor does he usually masticate his food sufficiently; the wants of the constitution stimulate him to swallow it hastily; he therefore devours his food greedily, and if there was not some other structure than the one common to stomachs in general, it would not be sufficiently digested. The insensibility of this cuticular coat may allow it to press in some degree on the food, and perform a slight trituration upon it. It is in consequence of this cuticular and insensible coat covering nearly one half of the horse's stomach, that many medicines, of great activity and power in the human body, have but little effect on this animal; among these are sugar of lead, emetic tartar, white and blue vitriol, verdigris, arsenic, &c.; and it is to the same cause, perhaps, we may attribute his being incapable of vomiting. The cuticular coat ends abruptly by a fringed end, and is very distinct from the villous coat. The villous coat being much larger in extent than the muscular, is thrown into folds, which are more considerable than those of the cuticular coat, and are largest towards the great extremity; towards the duodenum they become less,

and when at the pylorus they form a fold that makes a kind of valve to this part of the stomach, preventing a return of the food, and its too speedy passage out. The folds not only hinder the too hasty passage of the food, but, by this means, apply the gastric juice more certainly to all the parts: but the principal end is to increase the secreting surface, which is here essentially necessary, as only one half of the horse's stomach has the power of secreting gastric juice. We here likewise see the utility of the saliva; for were the food to come into the stomach nearly dry, the gastric juice, being but a mucus, would not pervade all its parts, but it would be lost upon some, nor would the mass be soft enough to be spread in between the folds; which is the case by the pulp into which it is formed by the moist mastication. Blaine's Outlines of the veterinary art. Animals that ruminate or chew the cud have generally four stomachs; it is taken into the first and second stomach very little chewed; from this it is returned to the mouth to be more completely masticated, and when swallowed again passes into the third and fourth stomach; in the latter the digestive process is principally performed. See vol. i. p. 11 of the *Veterinary Medicine*.

Stomach, Inflammation of. The stomach sometimes becomes inflamed, in consequence of poisons or improper medicines being given, and sometimes, but rarely, from the irritation of both. As in all other internal inflammations, bleeding is here the essential remedy. If the inflammation arise from the improper use of medicine, oily and mucilaginous liquids will serve to dilute it, and sheath the sensible parts from their action. If corrosive sublimate be the cause, a solution of soap perhaps will be useful, as it will decompose any of the medicine which may remain; in short the only thing that can be done, be-

sides bleeding, is to drench the horse with infusion of linseed. Fortunately inflammation of the stomach is a disease that does not often occur in horses, except from the improper use of strong medicines, and then the remedies above-mentioned, if seasonably given, will generally be found effectual. No hay should be allowed for several days after the horse's recovery. It is asserted in Boardman's *Dictionary*, that "hellebore in the dose of half a dram will bring on sickness and efforts to vomit." It may be seen in vol. iii. p. 67, experiment 11, that half an ounce was given twice a day without any violent effect. In the same dictionary it is stated, that "four ounces of emetic tartar have been given without exciting nausea, and eight ounces of sugar of lead without any perceptible effect." "*Opium*," the same writer observes, "has no particular power on the horse (this I deny); *four ounces* have been given, and have caused pain and inflammation in the stomach; but it has no apparent influence over the nervous system, nor does it alleviate pain. Tobacco in every form has been employed, even an infusion of three pounds has been given without effect." I have known an instance of a horse having been killed by taking a dose of tobacco infused in beer; and I have no hesitation in asserting, that opium, in the dose of one dram, has a very beneficial effect upon the nervous system of the horse; how else can it cure locked jaw and the spasmodic or flatulent colic?

Oxen and sheep are liable to distention of the first stomach or paunch from feeding greedily when first put into a rich pasture of clover; they are then said to be blown or hoven, and require immediate assistance. See *Blown*.

Horses often injure themselves by feeding greedily; in such cases the corn is very imperfectly masticated,

and consequently difficult of digestion. I have known three instances of the stomach having been ruptured by eating a large quantity of oats. The most acute and painful, and, at the same time, a dangerous kind of colic, is often produced by the same cause. This not unfrequently happens to post and coach horses, which are often driven hard upon a full stomach.

STOMACHICS. Medicines that stimulate and strengthen the stomach.

STONE. Stones are very rarely found in the horse's bladder; sometimes they are met with in the ureters and kidneys. In that part of the intestines named cæcum very large stones have been found. I have one which weighs eight pounds. This disease is never discovered, I believe, till after the horse's death.

STRAIN OF THE BACK SINEW. The flexor tendons, or back sinews, as they are commonly termed, consist principally of two tendons; one terminating in the bottom of the coffin bone, the other in the pastern. The latter serves as a sheath to the former. Between these tendons a slippery fluid is secreted, which enables them to move readily upon each other; in several parts, however, we may observe membranous bands passing from one tendon to the other: in violent exertions these membranes are ruptured; hence arises a greater or less degree of inflammation, swelling, and tenderness; in severe injuries coagulable lymph is effused, constituting the callous enlargement of old strains. An erroneous idea of the nature of strains very commonly prevails: it is supposed to consist in an extension of the tendon: but in dissecting an old strain, the tendon is always found in its natural state. Rest is the grand remedy for strains, and without it all others will prove ineffectual. It is by many supposed, that turning a horse to grass,

when strained in the back sinews, is a better plan than keeping him in the stable; this, however, is by no means the case: at grass a horse will generally take so much exercise, as will tend rather to increase than diminish the lameness. A flannel bandage, kept constantly wet with the following lotion, is, perhaps, as good a remedy as can be employed for recent strains: as it cannot well be moistened during the night, it is better then to leave it off, and apply it again as early as possible in the morning, for the dry bandage would be injurious;

Take Sulphate of zinc, four ounces;

Acetate of lead, six ounces;

Water, three quarts;

Vinegar, one quart.

In strains of ligaments of the fore or hind legs, the same mode of treatment is to be adopted. In very severe strains it is advisable to bleed and give some opening medicine; and if any swelling remains in the leg after the inflammation has subsided, blistering or firing is necessary, but these are never proper until that period.

STRAIN OF THE SHOULDER. This may be distinguished by the difficulty the horse feels in extending the limb, and generally inclining it a little outward at the time he is advancing it. Here also rest is at first the essential remedy; bleeding, opening medicine, and a rowel in the chest, are also proper. The whole of the shoulder should be well rubbed with the following embrocation twice or three times a day:

Soap liniment, four ounces;

Liquid carbonate of ammonia, one ounce.

STRAIN OF THE BACK. Apply the above embrocation, and place a fresh sheep skin on the loins with the flesh side next the skin: bleed and give a laxative.

STRAIN OF THE HIP-JOINT. This seldom happens; though almost every obscure lameness of the hind parts is attributed to it. It is often incurable; rest and an extensive blister are the most probable remedies.

STRAIN OF THE STIFLE is indicated by swelling and tenderness of the part; and a difficulty in bringing forward the hind leg. As the injury in this case is generally deeply seated, a blister is the best remedy.

STRAIN OF THE COFFIN-JOINT. This is productive of a very obstinate lameness; perfect rest is at first essentially necessary; blistering the pastern is also proper. It should be laid down as a general rule in the treatment of strains, of whatever kind they may be, that, during the existence of inflammation in the part, rest is absolutely necessary; and that, when the inflammation has subsided, moderate exercise is highly proper. This subject has been more particularly treated of in vol. iii. p. 186.

STRANGLES. A disease incident to young horses, attacking them generally during the fourth and fifth year. It consists in a swelling under the jaws attended with cough, dullness of the eyes, and some degree of fever: soon after a discharge from the nostrils usually takes place, the swelling increases, becomes tender, and at length suppurates. The abscess, if not opened, bursts, the horse is relieved, and gradually recovers. This is the usual progress of the disease when left to nature; and I have known many colts get through the disorder at grass without any assistance. The strangles sometimes attacks in a more severe form; the swelling and inflammation of the throat are so considerable as to prevent swallowing, and sometimes even to threaten suffocation. In this case the part should be frequently and indeed almost constantly

fomented; or a large poultice should be applied so as to be completely in contact with the swelling: this, however, is not easily done; and I think upon the whole, it is better to trust to the fomentation, by which the tumour will be brought to suppuration, and then the horse will be relieved. When the swelling has burst or been opened, (and unless this opening is of sufficient extent to give free vent to the matter, it may be retained, and form sinuses or a fresh tumour,) it may be dressed with digestive ointment and kept clean; by such management it will soon get well. I have generally applied some stimulating ointment, or a blister, to the throat, when there is great difficulty in swallowing, or a severe cough; and when the blister has produced its effect, have employed the fomentation, as before directed. As to the period when it is proper to open the tumour, I would by no means advise its being done, until the whole of it has become soft. (See *Abscess*.) When a horse is recovering from strangles, and has regained his appetite in some degree, a mild dose of physic should be given.

STRANGURY. See *Urine, Suppression of*.

STRING HALT. When a horse, on first going off, lifts his hind legs unusually high, or rather suddenly, as if the muscles were affected with spasm, he is said to have the String Halt. Dissection has thrown no light either upon the cause or cure of this disorder: it may, perhaps, depend on some disease in the hock or fetlock joint, though not indicated by swelling, tenderness, or any other unusual appearance. When the string halt is so considerable as to amount to lameness, it may be advisable to blister or fire these parts.

STUBS. When a horse is wounded by a splinter of wood about the foot or leg, he is said to be Stubbed: the wound should be carefully examined, and any splinter extracted that may be found in it; after-

wards it is to be treated like other punctured wounds. See *Wounds*.

STURDY. A disease in sheep occasioned either by water in the cavities of the brain or polypi pressing on it. See *Brain*.

STRYPTICS. Medicines which stop bleeding. In veterinary practice, nothing of this kind should be depended upon. There are only three effectual methods of stopping bleeding, viz. tying the wounded or divided artery, both above and below the wound, pressure, and the hot iron. In internal bleedings or hæmorrhages, the treatment must depend upon the cause. See *Bloody Urine*.

SUBLIMATE. This is the most powerful of the mercurial preparations: in farcy and obstinate complaints of the skin, it has been given with good effect, but it must be used with caution. Externally it has been found useful when dissolved with an equal weight of muriatic acid in water, in itching, complaints of the skin, and in obstinate grease: I have found it also the best caustic for quitters. See *Corrosive Sublimate*.

SUDORIFICS. Medicines which excite sweating. I believe that no medicine we are at present acquainted with will excite or promote this discharge in the horse with *safety* or certainty; the insensible perspiration, perhaps, may be increased by a mixture of emetic tartar, opium, and ginger, or by a mixture of ipecacuanha with opium.

SULPHUR. This is a favourite medicine of farriers, and is an ingredient in all their alteratives; I have given it in various doses without observing any particular effect, except that when given to the extent of three or four ounces it acts as a laxative. In cutaneous diseases it is certainly a valuable medicine. See *Mange*.

SULPHUR VIVUM. An impure kind of sulphur, sometimes containing arsenic. See *Mange*.

SUPPOSITORY. A solid composition thrust up the fundament to cause a discharge of dung.

SUPPURATION. When inflammation proceeds until matter forms in the part, it is said to have suppurated. See *Abscess* and *Inflammation*.

SURBATING. A term used by old farriers for inflammation of the foot.

SURFEIT. A disease of the skin, consisting in an eruption of small pustules or scabs: it appears to arise from a diseased state of the stomach and bowels. Give, in the first place, a mild purgative, afterwards a powder daily, composed of

Nitre, one ounce;

Levigated antimony, one ounce.—Mix.

In bad cases Ethiops mineral, or a small quantity of calomel, may be added.

SWEETBREAD. See *Pancreas*.

SYNCOPE. Fainting.

SYNOVIA. Joint oil: a mucilaginous fluid formed within joints, to render motion easy, or diminish friction.

T.

TABES. A wasting of the body. See *Consumption*.

TANSEY. In human medicine tansey is used as a vermifuge, but in veterinary practice it is employed only as an ingredient in fomentations.

TAR. Common tar is a good application for thrushes and other diseases of the frog.

TAR, BARBADOES. See *Barbadoes Tar*.

TARSUS. The cartilaginous edge of the eye-lids. See *Eye*.

TARTAR. An acid substance found adhering to casks in which wine has been kept: when purified, it

is named Cream of Tartar. It is scarcely worth notice as a veterinary medicine.

Tartar, Oil of. Potash, when exposed to the air for some time, attracts sufficient water from the atmosphere to become fluid: in this state it is named Oil of Tartar *per deliquium*.

Tartar, Salt of. See *Potash*.

Tartar, Emetic, or Tartarized Antimony. See *Emetic Tartar* and *Antimony*.

TEETH. A horse has forty teeth when he has completed his full number; the mare usually only thirty-six, being generally without tushes. They are divided into three kinds: the *incisores*, cutting teeth or nippers; the *cuspidatæ* or tushes; and the *molaes* or grinders. The horse, like most other quadrupeds, has, during life, two sets of teeth; a temporary and a permanent set; the first usually appears at or soon after birth, the others appear gradually as the temporary set fall out, and the change is completed during the fifth year of his age. It is a curious fact, that though the two sets of teeth appear with an interval of some years between them, yet the rudiments of both are formed nearly at the same period; at least we know, that as soon as the temporary or colts teeth are evident, the traces of the others can be distinguished immediately under them, and are only prevented from making their appearance by the pressure of the first: thus, when one of the first set is drawn, its place is soon filled up by one of the second or permanent set; and this appears to be a reason for their early formation, that they may always be ready to fill up any accidental displacement that may occur before the usual period. Dealers often take advantage of this circumstance, and by drawing some of the colt's teeth make him appear older than he really is. It was essentially necessary there should be two sets of teeth; for as they grow but slowly in

proportion to the jaws, had there been but one set, the disproportion in growth between the teeth and jaws must have separated and made them wide apart, as the jaws increased. The manner in which the temporary teeth are removed is very curious; it is occasioned by the pressure of the permanent teeth upon their roots; this causes a gradual absorption of the roots, so that after a time, having no support, they fall out. The grinding teeth of the upper jaw are sometimes found to have sharp points, from wearing unequally; this is sometimes so bad as to hinder mastication, and wound the inside of the cheeks; it is necessary in such cases to file them down with a concave or hollow rasp that is made for the purpose. We sometimes find next the first grinding tooth of the upper jaw a very small tooth, which farriers call a wolf's tooth; this is supposed, but without foundation, to cause a disease of the eyes. The edge of the first grinder is sometimes found considerably higher than the other parts of the tooth; this projecting point may be knocked off with a blunt chisel; another species of wolf's tooth is what the French call *surdents*, and is a diseased increase of some one tooth. See *Age*.

TEMPORAL ARTERY. The mode of bleeding in the temporal artery is described under the head *Arteriotomy*.

TENACULUM. A kind of hook for laying hold of an artery that requires to be tied.

TENDO ACHILLIS. The great tendon which is fixed or inserted into the *calcaneum* or projecting bone of the hock.

TENDON. The white, shining extremity of a muscle. When the flexor tendon of the leg is broken or divided, the ends are to be stitched together, and supported by a bandage: it is an accident, however, that rarely occurs. Mr. Feron says, he "has seen

different instances of a complete rupture of the back sinews;" and he advises, "when it is clearly ascertained that the tendons are broken, to dispatch the animal as soon as possible, in order to save both trouble and expense."

TENESMUS. Continual efforts to void dung without any discharge, from irritation in the rectum: it is generally removed by emollient or anodyne clysters.

TENT. A piece of lint or tow smeared with ointment and thrust into a sore in order to prevent a too hasty and superficial healing.

TERRETES. See *Worms*.

TESTICLES. Two glandular bodies, contained in a sack or bag, named Scrotum. In all animals the testicles are formed in the abdomen, and in some, as in birds, remain there. In the young colt they remain in the belly, immediately behind the kidneys, for some time after birth, when they begin gradually to appear within the scrotum. After the testicle has passed into the scrotum, carrying with it a covering from the peritoneum, a complete union takes place between that part and the spermatic cord; but the testicle itself is loosely invested by this production of the peritoneum, the vacancy between having generally a little fluid; this covering is named the *tunica vaginalis*. By this contrivance, in the human subject, there is no communication between the abdomen and the scrotum. This is a wise provision in man, for from his erect position, were it not so, there would be a continual descent of some of the intestines into the scrotum, constituting the disease termed Rupture: but quadrupeds, from their horizontal position, not being so liable to the descent of the intestines, have not the opening closed; in the horse, therefore, there is always a communication between the scrotum and the abdomen. In the human subject an

unusual quantity of fluid is formed between the tunica vaginalis and the testicle, causing the disease named Hydrocele or dropsy of the testicle; this seldom happens to horses. The semen secreted by the testicles is conveyed by the vasa deferentia to the vesiculæ seminales, from which it is occasionally expelled in coition.

THECA. A case or covering: a name given to the sheath of the flexor tendons.

THORAX. The cavity of the chest, which contains the lungs, heart, part of the windpipe and gullet, and the roots of the bloodvessels. It is separated from the abdomen by a strong muscle named Diaphragm, and divided into two parts by a duplicature of the pleura, called Mediastinum.

THORN. When a horse is wounded by a thorn, it must be carefully drawn out with forceps or small pliers, and, if necessary, an incision should be made to render its extraction more easy: the sooner this is done the better, as inflammation will soon come on, and render the operation difficult, if not impracticable. When the thorn cannot be removed, suppuration in the part must be encouraged by poultices.

THOROUGH PIN. A swelling on the inside and outside of the hock, of the same nature as the hog spavin: when pressed on one side the fluid within the tumour is forced to the opposite, and from this circumstance it has obtained the absurd name of Thorough Pin. It seldom causes lameness, and unless it does, had better be left to nature: when any inconvenience or stiffness in the joint is occasioned by it, blistering or firing is more likely to be beneficial than milder applications.

THORTER ILL. A paralytic disorder incident to sheep: it is said to arise sometimes from their eating some poisonous or narcotic plant; more frequently,

perhaps, it depends on general weakness from insufficient food: a nourishing diet and cordials are the best remedies.

THROMBUS. A name given to a tumour which sometimes forms in the neck after bleeding, from a little blood getting into the cellular membrane: it generally soon goes off again; if not, let it be rubbed with soap liniment.

THRUSH. A disease of the horse's frog, consisting in a discharge of stinking matter from its cleft or division; sometimes the other parts of the frog are also affected, becoming soft, and ragged, and incapable of affording protection to the sensible frog which it covers: having removed the shoe, pare away any ragged parts there may be, so as to expose fully the diseased surface; after cleaning the frog perfectly, apply a solution of white or blue vitriol, and a short time after, pour some melted tar ointment into the cleft of the frog, and let its whole surface be covered with tow that has been dipped in the same ointment, and upon the tow place a flat piece of wood about the width of the frog; one of its ends passed under the toe of the shoe, the other extending to the back part of the frog and bound down by transverse slips of wood, the ends of which are placed under the shoe. The moderate pressure thus applied will contribute materially to the cure, and to the reproduction of solid horn; this dressing must be repeated daily. Thrushes are sometimes attended with inflammation of the foot and lameness, particularly when the heels are much contracted, or drawn together so as to compress and inflame the sensible frog; in this case a poultice is proper for two or three days, by which the horn will be softened, and the contractile tendency diminished. See vol. iii. p. 137.

TIBIA. The bone of the horse's thigh; that is,

the bone between the hock and the stifle is thus named. In man, the large bone of the leg is called *Tibia*.

TICKS. Insects which infest sheep, dogs, and some other animals. A strong infusion of tobacco will quickly destroy them.

TIN. This metal is said to be capable of destroying worms in horses and dogs. See *Worms*.

TOBACCO. An infusion of tobacco is as effectual an application as any, for destroying lice, fleas, ticks, and other insects which infest the skin. It has been given internally, but is attended with danger. In one instance that came within my knowledge, a horse was quickly destroyed by taking an infusion of tobacco in beer. I have been informed, that in India, tobacco is sometimes given with the bark of the castor tree root, as an expeditious purgative.

TONGUE. The tongue is a muscular substance, composed of fibres variously arranged, by which it is rendered capable of that diversity of motion we observe; it has also several muscles attached to it: the small bone to which it has a muscular attachment is named *Os Hyoides*. I have met with several cases where several inches of the tongue have been lost without any apparent inconvenience being sustained by it. In giving balls awkwardly, the bridle or membrane under the tongue is sometimes lacerated; but it soon gets well if syringed with a solution of alum.

TONICS. Medicines that augment the strength of the body: the mineral tonics are preparations of copper, zinc, iron, and arsenic; the vegetable tonics are Peruvian and oak bark, cascarilla bark, gentian, quassia, &c.

TONSILS. Two glands situated one on each side of the root of the tongue: they secrete a mucous fluid for lubricating the adjacent parts.

TOPICAL BLEEDING. Opening a vein or artery near the affected part.

TOPICAL REMEDIES are such as are applied to any particular part.

TORMENTIL. The root possesses an astringent quality.

TRANSFUSION. An operation by which blood is conveyed from the vessels of one animal to those of another.

TRAUMATIC BALSAM. This is nearly the same as Friar's balsam, and the compound tincture of benzoin: it is used chiefly as an application to wounds and ulcers. The following is the formula of the London college:

Take of Benzoin, three ounces;

Purified storax, two ounces;

Balsam of Tolu, one ounce;

Socotrine aloes, half an ounce;

Rectified spirit of wine, two pints.—Digest for seven days and filtre.

TRAVELLING. Instructions for managing a horse during a journey have been given at some length in vol. i. p. 272.

TREAD. Horses are liable to receive severe bruises about the coronet, either by a tread from another horse, as often happens in the army, by a horse in the rear rank treading on the heels of one in the front rank, or by an over-reach of the hind foot; sometimes the injury is slight, and soon cured by the application of Friar's balsam or tincture of myrrh, having first carefully removed any dirt or gravel that may have got into the wound; the best manner of applying the balsam is to soak a piece of lint in it, and bind it on the part. When the tread has been more violent, considerable inflammation often takes place, and sometimes matter forms, and

penetrating under the hoof, becomes a Quittor. When the inflammation is considerable, a poultice should be applied for a few days, and afterwards a solution of white vitriol or alum.

TRUNK. The body or carcase of an animal.

TUBERCLES. Small tumours that sometimes suppurate and discharge pus: they are often found in the lungs. See *Consumption*.

TUEL. A name sometimes used for the horse's fundament.

TUMOUR. Swellings on any part of the body: they are of various kinds; sometimes caused by bruises or other accidents; at others arising without any visible cause. Inflamed tumours require cooling applications, such as solution of sugar of lead or Goulard's extract in water; but if they tend to supuration, the formation of matter should be promoted by fomentation or poultice; hard indolent tumours, that are neither inflamed nor painful, should have some stimulating liniment or ointment, or even a blister, rubbed on them: some tumours, such as wens, can only be removed by excision.

TUNIC. A coat or membrane investing a part, such as the tunica vaginalis of the testicle.

TURBINATED BONES. The thin spongy processes of the ethmoid bone within the nostrils, which in the horse are remarkably large, and often diseased in glanders.

TURGESCENT. An over-fulness of the vessels in any part.

TURMERIC. Turmeric root is an aromatic stimulant of moderate strength: it does not possess any peculiar virtues, though highly esteemed by farriers, and an ingredient in the greater part of their powders and drenches: it is considered by them as a remedy for jaundice or yellows, probably on account of its yellow colour.

URNSICK. See *Brain, Dropsy of.*

TURPENTINE. The resinous juices of certain trees. There are four kinds, viz. Strasburgh, Chio, Venice, and common turpentine. The two last only are employed in veterinary medicine. They are excellent diuretics and carminatives. Common turpentine is an ingredient in digestive and detergent ointments, and by distillation affords the essential oil, or as it is sometimes named, Spirit of Turpentine. Oil of turpentine is a good remedy for the flatulent colic; the dose from two to four ounces, mixed with gruel. In the human subject it has been found an effectual remedy for the tape worm, in the dose of one ounce or more. It acts as a brisk purgative in such large doses; but in small quantities it has a diuretic effect. In the horse it is the most certain diuretic we are acquainted with. Oil of turpentine, when rubbed upon the skin of animals, causes considerable irritation and pain; when used therefore as an embrocation it is generally mixed with some fixed oil, such as the oil of olives. Venice turpentine is usually made by melting and straining the common turpentine, and then adding a small proportion of the oil of turpentine.

TURPETH or TURBITH MINERAL, or YELLOW SUBSULPHATE OF QUICKSILVER or MERCURY. This mercurial preparation is seldom given to horses: it is given as an emetic to dogs; the dose for one of the middle size is about four grains mixed with butter.

TWITCH. An instrument, made by fixing a noose of cord to the end of a stick: this is put on the horse's upper lip and twisted rather tight, which makes him stand quietly during an operation.

TYMPANY. A distention of the abdomen by air. There are two kinds of tympany; one caused by air confined within the intestines, in the other, the air is exterior to the intestines, and within the abdomen.

Of the former kind we may consider flatulent colic, blown, or hoven, and the distention which takes place sometimes from crib-biting. The horse does not appear to be subject to the latter kind, or abdominal tympany.

TYPHUS. Low, nervous, or putrid fever. See *Fever*.

U.

ULCERS. Ulcers may arise from a variety of causes, and are usually divided into 1. The Simple Ulcer, which takes place generally from a superficial wound or bruise. 2. The Sinuous, that runs under the integuments, and the orifice of which is narrow, but not callous. 3. The Fistulous Ulcer or fistula, a deep ulcer with a narrow and callous orifice. 4. The Fungous Ulcer, the surface of which is covered with fungous flesh. 5. The Gangrenous or Putrid Ulcer. 6. The Carious Ulcer, depending upon a carious bone or cartilage. 7. The Glanderous Ulcer. 8. The Cancerous Ulcer, or that which constitutes the canker of the horse's foot. The simple ulcer of horses will generally heal spontaneously, or by application of some mild astringent, such as solution of alum, or tincture of myrrh; but if it be foul or callous in any part, an escharotic application will be proper; such as burnt alum or red precipitate. In the sinuous ulcer, the sinuses or hollow part should be completely laid open with a knife. The first dressing should be with the escharotic powder or solution of blue vitriol, afterwards with some mild astringent. The fistulous ulcer must also be laid open as far as it is practicable, as has been described under the heads *Fistula* and *Poll Evil*; it requires at first caustic, by which means it is brought to the state of a simple ulcer. In the fungous ulcer, the spongy flesh is to be re-

moved with a knife, and the sore dressed with escharotic powder until it becomes a simple ulcer. In the carious ulcer it is necessary to expose the foul bone or cartilage, so that it may be scraped with a drawing knife or any other more convenient instrument; it is then to be dressed with tincture of myrrh or astringents. The glanderous ulcer, when it occurs within the nostrils, is generally incurable; and though it may have healed sometimes when small, and so low down as to admit of mild caustic being applied, the constitution remains diseased, and fresh ulcers take place in other parts of the nose. When glanderous ulcers occur on the skin, as in farcy, they may generally be healed by mild caustic. But in this case also it often happens the constitution is tainted, and the supposed cure is followed by glanders. (See *Farcy and Glanders*, in vol. iii. of the *Veterinary Medicine*.) In the treatment of simple ulcers it has been too much the practice to dress solely with ointments, which often retard the healing, and encourage the growth of spongy flesh. It is also usual to cover them with plasters and bandages; but I have always found, that they heal more readily when exposed to the air.

URETERS. Two small tubes by which the urine is conveyed from the kidneys to the bladder.

URETHRA. A membranous and muscular canal by which the urine is conveyed from the bladder. It is of considerable length in the horse, but is seldom if ever obstructed. In passing over the bones of the pubis, the curvature it makes is such, that a catheter cannot be introduced into the bladder, unless an opening be made for this purpose in the perineum and back part of the urethra. In mares and cows the urethra is very short and large, and there is no difficulty in evacuating the urine by introducing the finger, and keeping the neck of the bladder open.

URINE, *Suppression of.* The term Suppression of Urine implies, that none or very little is secreted by the kidneys; and Retention of Urine means, that urine is secreted but cannot be evacuated. The former often depends upon inflammation of the kidneys, or a gradual decay in their structure having taken place. Sometimes however it may arise from a torpor of the secreting vessels. Inflammation of the kidney is easily distinguished by the fever which attends it, the pain the animal suffers, standing with his legs out and wide, as in the act of staling, and constantly endeavouring to stale, though there is scarcely any thing in the bladder; and upon examining the bladders of such horses after death, they have been found not only empty, but free from any appearance of disease. When the kidneys undergo a gradual decay, it is probable that the improper use of strong diuretics has contributed to the production of the disorder. This disease is not manifested by any particular symptoms, until the decay has made considerable progress. The horse is attacked now and then with stoppage in his water, as it is termed, and is often relieved for a time by diuretics; at length eruptions appear on different parts of the body, and when a total suppression takes place, from the structure of the kidneys being so destroyed that they can no longer secrete any urine, the animal soon dies. In such cases the bladder does not appear to sympathise with the kidneys, as in acute inflammation of those organs; for the horse is not constantly endeavouring to stale. Gibson relates a case of decayed kidneys in a miller's horse, caused by carrying heavy burthens. "This horse," he says, "was often subject to suppression of urine, and though he was always relieved by timely applications, yet these became more frequent as he grew old, till the last attack, when he continued three days before he died without staling or showing the

least disposition to stale ; during which time he never stood wide and straddling, but moved his hind legs and would cross them with great ease, till the next day, when his legs and whole body swelled and broke out all over in moist watery blotches. After death the kidneys were examined; nothing remained of the right kidney but a small hard substance about the size of a pullet's egg, almost ossified, and of no regular shape. The left kidney was extremely large and spongy in some places, in others scirrhus, and broken into several ragged interstices, and so mangled that nothing of its original texture remained." Retention of urine is caused by inflammation or some other disease of the neck of the bladder, or by the bladder itself having lost its power of contracting. When the bladder is distended with urine it may be easily felt, by introducing the hand within the rectum ; when this is found to be the case, it is evident that the kidneys perform their functions : the principal object then is to cause the accumulated urine to be discharged ; and, of course, to avoid every thing which may have a tendency to increase the secretion of urine. If there is any degree of fever, bleeding is proper : a dose of castor oil and a laxative clyster are to be given. If relief is not afforded by these means, and it is clearly ascertained that the bladder is distended with urine, it is necessary to have recourse to an operation for drawing it off. In mares, it has before been observed, the urethra is short and large, and it is easy to introduce a short tube or even the finger into the bladder, and by keeping open its neck suffer the urine to flow out. In the horse however it is necessary to pass a long piece of smooth round whalebone up the urethra as far as it will readily go ; the end of it will then be felt a few inches under the fundament ; upon this end an incision is to be made, and through this opening a catheter may be introduced,

and the urine discharged. Having accomplished this object, let the following ball be given, which will probably remove the disease in the neck of the bladder, which caused the retention of urine. As weakness in the muscular coat of the bladder is likely to follow, if it did not contribute to the production of the complaint, it will be highly necessary to guard against a return of the disease: very little water should be allowed for some days, and every thing of a diuretic nature carefully avoided. An accumulation of urine is sometimes produced by riding a horse for a considerable time, and urging him forward, without allowing him to stale; and this is more likely to happen, should the groom have given him a urine ball, which is not an unfrequent occurrence. The bladder by such treatment becomes unusually irritable, and contracts upon a smaller quantity of urine than it did in its healthy state, consequently he wants to stale the more frequently.

The Ball:—

Take of Camphor, two drams;

Powdered opium, half a dram;

Nitre, one ounce;

Flour and syrup enough to form a ball.

Urine, Incontinence of. See *Incontinence of Urine.*

Urine, Excessive Discharge of. See *Diabetes.*

UTERUS. The womb. The uterus of the mare is very unlike that of the human subject, in which it consists only of one bag, rather of an oval shape somewhat resembling a pear; but in the mare and other quadrupeds it has a body and two branches, called its horns. The uterus terminates in the vagina by a narrow portion called the neck or mouth of the womb; the extremities of these horns have tubes attached to them, which, from the name of the discoverer are called Fallopian Tubes, one end of which is expanded and has a fringed kind of edge: this is

named the Fimbria of the Fallopian tube. The Fallopian tube is very tortuous in its form, and that end which proceeds from the horn of the uterus is extremely small; but the other which is slightly attached to the ovarium is considerably larger. The ovarium is an oblong body, about the size of a small egg; attached, as before observed, to the extremity of the Fallopian tube. The ovaria, for there are two, are composed of a number of transparent vesiculæ, called Ova (eggs,) each ovum is surrounded with cellular membranes, and when the ovum is impregnated and passes into the uterus, it leaves a mark which is named Corpus Luteum.

UVULA. In the human subject, the small flesh-like substance, hanging in the middle and back part of the throat, is thus named. In the horse this is of a very different form. The uvula completely closes the opening to the pharynx, though it readily yields to the passage of food, or any liquid towards the gullet; it prevents however the return of anything to the mouth, even the air that is expired from the lungs, unless it is thrown aside by a violent effort, as in coughing. It is on this account, that, when the horse is affected with nausea, or has the action of the stomach inverted, which sometimes happens, though very rarely, the contents of the stomach will be discharged through the nostrils; but if the horse happens to cough while it is in the pharynx, some part will be discharged by the mouth. I have seen this take place in one instance, and then a considerable quantity of the contents of the stomach was discharged by the mouth. See vol. i. p. 14.

V.

VAGINA. The passage from the external pudendum, or shape, to the mouth of the uterus.

VALERIAN. The root of Valerian is said to possess an antispasmodic power, but it is not likely to prove useful in Veterinary Medicine.

VARIX. The dilatation of a vein, as in bog spavin; the enlargement of the vein, however, in this case is a consequence of the distended mucous bag, or that tumour which constitutes bog spavin. See *Spavin*.

VEINS. In describing the circulation of the blood, it was observed, that, where the arteries terminated, at least generally, the veins began. There is a difference in structure between the veins and the arteries: the latter by means of their muscular coat contract upon the blood, which they receive from the heart, and propel it forward to their extremities; here the veins begin, or rather the extremities of the arteries become the extremities of veins. The arteries as they proceed from their source become gradually smaller; after terminating in veins they gradually increase in size, and become less or fewer in number, as they return to the heart, till at last they all form two large veins, viz. the posterior and anterior cava, which terminate in the right auricle of the heart. (See *Heart*.) The texture of veins is much more slender than that of arteries, yet they possess considerable strength, and though sometimes distended, seldom burst. The veins generally accompany the arteries, but as they are subject to pressure from the action of the muscles, and their coats are not sufficiently strong like the arteries to resist it, they are more numerous than the arteries; and there is besides a superficial set of veins

which are not accompanied by arteries. The veins are provided with valves, which appear to be a duplicature of their inner coat, rising into a kind of curtain or fold. In the human subject there are two of these folds to form the valve, but in the horse there are three: these, when the blood by pressure is stopped in its course, prevent it from returning. The valves are not equally distributed throughout the veins: in some they are numerous; in others, as in those of the foot, there are none; there are but few in the viscera, and none in the glands. The blood is returned to the heart by a regular flow, the veins having no pulsation like an artery, nor any contractile power.

VENTRICLE. One of the cavities of the heart. See *Heart*.

VERDIGRIS. The rust of copper, formed by means of vinegar or wine-lees. It has been recommended in farcy, in the dose of two or three drams; but I have never seen it do any good. It is a useful ingredient in digestive ointment, and acts, when applied to an ulcer alone, as a mild escharotic. Chrystalized verdigris is stronger and preferable for external use to common verdigris.

VERJUICE. Vinegar made from the crab-apple. It is stronger than common vinegar.

VERMIFUGE. A medicine that destroys or expels worms. Calomel and aloes are considered the most effectual vermifuges in the horse. Tin also is said to have a vermifuge power, particularly in dogs. See *Worms*.

VERTEBRÆ. The bones of the neck and spine. See *Spine*.

VERTIGO. A slight degree of apoplexy, which at times makes a horse stagger or reel, particularly when going rather fast, but not often fall; the fit generally soon goes off by suffering him to stand quietly a

short time, and if he falls the fit usually soon leaves him, and he gets up again. Moderate bleeding and a dose of mild physic are the best remedies. The disease is commonly termed Megrims.

VINEGAR. This is a cheap and useful article of the Veterinary Materia Medica, and is much used either alone or diluted, or mixed with other substances, in bruises, strains, swellings, &c. A solution of sugar of lead in vinegar is nearly similar to Goulard's extract.

VISCERA. The plural of Viscus, a term applied to the internal organs of the body, as the lungs, bowels, &c.

VISCOUS. Glutinous, sticky, like bird-lime.

VITRIOL. A common name for many preparations: thus we have white vitriol, blue vitriol, green vitriol, oil of vitriol, &c. This common name is derived from that of the acid from which they are formed. This acid, formerly called the Vitriolic Acid, is now named by the college Sulphuric Acid, consequently the preparations or compounds formed from it are named Sulphates. Thus white vitriol is now called Sulphate of Zinc; blue vitriol, Sulphate of Copper; green vitriol, Sulphate of Iron.

VITRIOLIC ACID. Oil of vitriol. See *Acid*.

VIVES. A swelling of the parotid gland, which is situated between the ear and the angle of the jaw. When the tumour is inflamed and painful, fomentation or poultice is proper; if hard and free from tenderness, apply some stimulating embrocation or blister. If it suppurate, it is to be treated as an abscess. See *Abscess*.

VOMICA. Abscess or ulcer of the lungs.

VOMITING. See *Stomach*.

VULVA. A name given to the external parts of generation in females.

W.

WALL EYES. A horse is said to have a wall eye, when the iris is of a light or white colour. According to Gibson, wall-eyed horses are generally good.

WARBLES. Small, hard, but inflamed swellings in a horse's back, caused by the pressure or heat of the saddle. They are to be bathed frequently with vinegar, or a solution of sugar of lead in vinegar, or crude sal ammoniac dissolved in vinegar. When much inflamed these applications require to be diluted.

WARRANT, WARRANTRY or WARRANTY. When a horse is purchased with a warranty of soundness, the purchaser should have the conditions of the bargain fully expressed on a stamped receipt, in the following form :

Received of ——— the sum of ———
for a black gelding, warranted perfectly sound,
free from every kind of vice, and between ———
and ——— years old.

If the horse is purchased for harness, it should be added, "steady in harness, not given to kicking, rearing, or jibbing."

WARTS. Spongy excrescences which arise in various parts of the body. The knife is the best remedy.

WATER. The purest water is certainly the most wholesome. In summer, river water is better for horses than that taken from deep wells; but in winter, well water is to be preferred; because it is then many degrees warmer than river water. When the latter is used in winter, it should stand in the stable some time before it is given, that it may lose its chillness in some degree, and the same rule should be observed with regard to well water when it is used

in summer. I have often seen the flatulent colic and shivering produced by giving horses water from a deep well, in hot weather, immediately after it is pumped up. Water impregnated with saline matter, even in a slight degree, is unwholesome for horses. Water kept in casks is apt to acquire an unpleasant smell, and is therefore injurious. Horses should be watered three times a day, allowing about half a pail each time. Walking exercise after watering is useful, particularly in the morning; but trotting or galloping is very injurious. Pond water, from a clay bottom, is by some preferred to running water, but in summer stagnant water often becomes vapid and rather nauseous, and is therefore improper.

WENS. Hard tumours of various sizes, in different parts of the body. The most effectual method of removing them is, to dissect them out together with the cyst in which they are formed. The skin is then to be stitched and treated as a simple incised wound.

WHIRL BONE, or ROUND BONE. The hip joint is generally thus named; which is supposed, but I believe very erroneously, to be frequently the seat of lameness. Obscure lamenesses of the fore parts are generally supposed by grooms and smiths to be in the shoulder; and those of the hind parts are as commonly referred to the whirl bone.

WIND. The most effectual method of bringing a horse into good wind is, to give him regular exercise very gradually increased, good hay, and oats in a quantity proportioned to his exercise; but the quantity of hay should be moderate at all times; water three times a day in a moderate quantity; a stable properly ventilated, and a dose or two of mild physic. See vol. i. p. 227.

WINDGALLS. Small elastic tumours on each side of the back sinews, immediately above the fetlock joint: they consist of enlarged mucous capsules, and are ge-

nerally caused by hard work at too early an age. They do not often occasion lameness, and unless so considerable as to cause some degree of stiffness in the joint, had better be only bandaged, or have some stimulating embrocation well rubbed in; but when they cause lameness, or are attended with weakness of the fetlock joint, firing, blistering, and rest, are the best remedies. (See vol. iii. p. 204.) Dr. Bracken says, If rest and running at grass do not answer, the best method is to open the tumours, and thereby discharge the brownish gelatinous fluid contained in the cyst. This should be done while the horse is standing, with the opposite foot held up; that by this means the windgalls may be more full and apparent. After cutting through the whole extent of the tumour, he advises some escharotic powder to be applied, in order to consume the cyst or bag. Mr. John Lawrence relates a case, which he says was so completely cured by this operation, that the horse afterwards won a match, and was then sold to carry a lady. I believe the operation will be generally found worse than the disease.

WITHERS. The part where the mane ends is thus named in the horse.

WOLVES TEETH. See *Teeth*.

WORMING. An operation performed on puppies for the purpose of preventing them from biting, should they happen to become mad. It consists in making an incision underneath the tongue, and drawing out with a hook a small worm-like ligament. It is recommended by Mr. Daniel in his *Rural Sports*, where the operation is particularly described.

WORMS. The stomach and bowels of horses are liable to be infested with different kinds of worms; but as the same treatment is proper, whatever kind of worms they may be, it is needless to enter into a particular description of them. The most certain sign

of worms, except that of their being voided with the dung, is the appearance of a light yellowish matter immediately under the fundament. The inconvenience produced by worms is that of making a horse thin and hide-bound, giving him a dry staring coat, causing some degree of languor and weakness, and in some instances they have caused slight attacks of colic. Worms however often exist in the bowels in a considerable number, without producing these effects. Botts are often found in the horse's stomach, when their existence had not been suspected while the animal was living; and even about the pylorus they are sometimes found in such numbers as almost to plug it up, without having caused inconvenience during life; but in some cases botts have caused the most serious diseases. (See *Botts*.) I do not think it has hitherto been remarked by any veterinary author, that worms are sometimes found in the great mesenteric artery of horses and asses, and that in all such cases there have been emaciation, staring coat, and hide-bound. It is remarkable, that young asses, that have been half starved and sold for the purpose of dissection, are often found in this state. Horses that die of mesenteric consumption have generally the great mesenteric artery enlarged, its coats considerably thickened, and within it many small worms. A worm is sometimes found in the eyes of horses; but this, I believe, is peculiar to hot climates; and it is remarked in a book published in India by M. A. de l'Etang, that no European author has noticed it. I have been favoured with a description of this disease by a gentleman, who has been for some time resident in India, and he confirms the following account of this extraordinary worm by M. A. de l'Etang. "It makes its first appearance by a light coloured cloud covering the eye; a circle is formed on what is termed the apple of the eye, and seems to prescribe limits

to a worm, which really exists in it, and appears by constant motion to endeavour to escape. The horse feels no particular pain, but is deprived of sight, until the worm is extracted by the following operation. Let the horse be thrown down, open his eye-lids widely, (this may be effected by means of the handle of a key, which at the same time will keep the eye steady,) make with a small lancet an incision of two lines (one sixth of an inch) deep, and five or six long, either over or under the apple of the eye, taking care not to touch it. A fluid with the worm will immediately come out. The eye is afterwards to be covered from the light." (See *Eye, Diseases of*.) Insects, termed Flukes, and somewhat like a flat fish, are found in the livers of sheep that have the hepatic or liver rot. Worms are sometimes fatal to poultry, particularly turkeys. Mr. Weinsenthal observes in the Medical and Physical Journal, "that the inconvenience experienced by poultry from this cause is at first but slight; gradually however it becomes more oppressive, until the animal dies. Very few recover: they languish, grow dispirited, droop, and die." I have, in one instance only, found small worms in the windpipe of an ass, which appeared to be the cause of his death.

In the treatment of horses that have worms in the bowels, I believe that mercurial purgatives are the most effectual. Gibson, a very respectable author, thought sative a good remedy: I have not found it so. Ethiops mineral and antimony have also been thought good vermifuges, probably without sufficient foundation. A brown coloured salt brought from India has also been recommended; it appears to be nothing more than common salt, with a small proportion of sulphur, or liver of sulphur. In one case sulphuret of iron was given with a good effect to a horse that had worms. Mercurial purgatives however are the

most certain remedies. The best method of exhibiting the mercurial medicine, is to give, for two or three successive nights, a dram or a dram and a half of calomel, and the morning after the last dose, a purgative ball. Gibson observes, that most of the preparations of antimony are efficacious for destroying worms. I have given the strongest preparation of that mineral, emetic tartar, without any useful effect, to horses that had worms.

WOUNDS. Mr. Blaine very properly observes, that the principal difference in the treatment of wounds of the horse from those of the human body is in the mechanical part. The treatment of wounds must depend, in a great measure, upon the circumstances of the case, or the manner in which they were inflicted. Wounds may be divided into three kinds, viz. the Simple Incised Wound, made by a clean cutting instrument; the Lacerated and Bruised Wound; and the Punctured Wound. The treatment of wounds must depend also upon the structure of the part; thus the wound of a joint, or sheath of a tendon, requires a different treatment from a wound of the skin or flesh. In the latter kind, nature is often sufficient to repair the injury; but in the former, the most violent effects often ensue. Before a wound is dressed it should be carefully cleaned: if it has been made with a clean cutting instrument, without any laceration or bruising, the divided parts should be brought together and secured by suture, (stitches). In wounds of the human body this is generally done by means of sticking plaster: and in some cases the same means may be found effectual in the horse, particularly when the situation of the wound is such as to admit of the application of a bandage, which would materially assist in keeping the divided parts together; most commonly however the suture is the only method by which this can be accomplished. In the human body, wounds are often healed in this

way without inflammation or the formation of matter; but it seldom happens so in the horse, from the difficulty of keeping the parts at rest, and from their wounds being generally accompanied with so much laceration or bruising, as to render such an easy union impracticable. It is very generally supposed by those who are unacquainted with the principles of surgery, that certain salves or balsams have the wonderful property of healing wounds in a short time, and that some preparations, such as the Riga balsam, possess this quality in a superior degree to others. Very little observation, however, is sufficient to convince any one, that all animals are endowed with the power of repairing injuries of this kind, and of reproducing, in a certain degree, parts that may be destroyed. This is well exemplified in the operation of nicking, in which several deep incisions are made in the under part of the tail, and the muscle or flesh which protrudes is drawn out with a hook and cut off, leaving large gaping wounds; the tail is then kept in an erect or elevated position, and in about three weeks, without any kind of dressing being applied, these wounds, so formidable in appearance, will be completely filled up with new parts, and covered with skin. (See vol. iv. p. 119 and 127.) This power of reparation is more perfect in brutes than in man, and in some animals exists in so high a degree, as to be equal to the regeneration of an amputated part; the crab and the lizard afford an example of this. All wounds are attended with more or less inflammation. In small and superficial wounds this is so trifling as to be scarcely worth noticing, and the efforts of nature will be quite sufficient to repair the injury; but in deep and extensive wounds, and especially when tendons or ligaments have been injured, a dangerous degree of inflammation and symptomatic fever are often produced. In such cases bleeding and opening medicine are highly ne-

cessary, and the only application to the wound should be the anodyne fomentation, until the inflammation and fever have subsided, and the wound discharges white healthy looking matter, free from any offensive smell. At this period it is often necessary to inject some stimulating fluid into the wound, such as the solution of white or blue vitriol, or diluted spirit; this will expedite the healing process. When a horse is staked in leaping over hedges, or otherwise receives a deep wound, the usual practice of farriers is to cram into the cavity what is termed a Tent, that is, a wad of tow dipped in some stimulating ointment; this often produces a dangerous degree of inflammation, and is sure to retard the healing of the wound. In such accidents, the first thing to be done is to remove any splinters or other foreign matter that may remain in the wound, and then, if it is only a muscular injury, it will gradually heal. Fomentations alone should be employed, until inflammation has in a great measure subsided. In deep wounds it must be sufficiently obvious, that it is not proper to sew them up, as it would prevent the free discharge of matter; if the situation of the wound, however, will admit of it, a bandage may be useful, if so applied as to allow the matter to escape freely. When a bone is injured the cure is often very tedious, and it often happens in such cases that the muscular parts and skin are healed, while the disease in the bone is still going on: an abscess will then form over the diseased bone, which if not opened will burst and leave a cavity as large as the original wound. When the injury of the bone is confined to a small space, the wound generally does not completely heal up, but there remains a small narrow opening, nearly closed with flabby fungous flesh, from which a small quantity of matter of an offensive smell is discharged. This opening, perhaps, will be just sufficient to admit a silver probe, which

may be passed directly down upon the bare bone. The only method by which such a wound can be healed, is to open the sinus freely and expose the diseased bone; the carious surface of which is to be scraped off with a drawing knife, or any convenient instrument: after this has been done, the wound will soon heal completely, by syringing it now and then with tincture of myrrh, or solution of white vitriol, of moderate strength. Wounds of joints, particularly the large ones, are generally attended with the most serious inflammation and symptomatic fever; and the animal appears to suffer the most excruciating pain. It may be known when a joint has been opened, by synovia or joint oil flowing from the wound, which is a yellowish, transparent, slippery fluid. The first thing to be done in this case, is to close the opening in the joint as quickly as possible; and as these wounds are generally small and of the punctured kind, inflicted either by a sharp stable fork or a thorn, the object is most readily accomplished by applying the actual cautery. The following is the method recommended by Mr. Coleman, in the first volume of the *Veterinary Transactions*. "When a joint, or mucous capsule, or the sheath of a tendon is opened, the first application necessary is the actual cautery. The instrument most proper for the purpose is made of iron, two feet in length, rounded at the extremity, about the size of a small button, with a wooden handle. The temperature of the iron should be moderately red: if it be black, the heat will not be sufficient to produce a proper discharge of lymph to close up the wound; and if it is white, (at a white heat,) it will destroy too much of the surrounding parts, and perhaps do mischief to the (capsular) ligament. (See *Ligament and Joint*.) Although the operation in itself is very simple, yet some knowledge of the structure and economy of the parts is necessary, for the purpose of

applying the cautery with the best possible effect. The object in view is to produce a glutinous substance to close up the cavity, and before the slough is removed, for the granulations below to supply the place of the lymph; but if the ligament itself be destroyed by the cautery, it must, like other dead parts, separate from the living, and come away, and then the joint will still be opened. It is therefore of importance not to destroy the ligaments of joints with the hot iron, but confine its application to the external soft parts. In these cases it is generally proper to cauterize the whole external surface of the wound, and if the discharge is not immediately stopped; the iron perhaps has not been applied sufficiently deep, or too cold to produce a proper discharge of lymph. Where a cure is possible to be effected, the actual cautery will frequently close the cavity and stop the discharge; sometimes, however, in the course of one, two, or three days, the discharge appears again by the sides of the lymph, and then the same operation should be repeated. In some instances Mr. Coleman has had occasion to apply the cautery five or six times, and nevertheless has ultimately succeeded." Mr. C. recommends the same treatment for penetrating wounds into the chest and abdomen, and for the inflammation of the neck vein, which sometimes happens in consequence of careless bleeding, or as it is commonly termed a Bad Neck from bleeding. In this case the neck becomes tender and swollen the day after the bleeding; and about the second or third day it sometimes happens, that blood again issues from the wound. Mr. Coleman observes, "That the application of the cautery is the most effectual method of stopping the hemorrhage; but if this fail, and the part is too much swollen to admit of being pinned up, there is no other remedy than to take up (tie) the vein by a ligature above the diseased part; and there may be instances

where it is advisable to tie up the vein below also: in general however the actual cautery will prevent the necessity of tying the vein;" but he observes further, "if that part of the vein which is tied be thickened and inflamed, the disease will spread upward, and much mischief will be done. I have met with a great number of sore necks, caused by the clumsy bleeding of inexperienced persons; but in one only it appeared necessary to apply the actual cautery, in order to stop the hemorrhage, in which it completely succeeded." Cases of this description are seldom brought to the veterinary surgeon, until they have existed for some time, and have baffled the skill of the blacksmith; and then we generally find that the vein is lost, as it is termed, that is, it is obliterated or plugged up above the opening in the neck, by an effusion of coagulable lymph within the vein. In this case it is to be treated as a sinuous ulcer; requiring stimulating or escharotic liquids to be injected; but in many instances I have found a cautious use of the knife the most expeditious remedy: at all events, it is an essential part of the treatment to make a depending opening for the matter to run off freely. Great inconvenience sometimes arises from an obliteration of the neck vein, even after the wound is completely healed; for as one of the principal channels is destroyed by which the blood is returned from the head to the heart, inflammation and swelling generally take place in the gland (parotid,) which extends from beneath the ear to the division of the neck vein, and this more certainly happens when the horse is turned to grass, or suffered to feed from the ground. Punctured wounds of the foot often occur, and are sometimes of a very serious nature; they may arise from a nail, or sharp piece of flint, or glass in travelling, or from the nail being driven into the sensible parts in shoeing, in which case a horse is said to be pricked. (See *Pricks*.) It will

be seen from the perpendicular section of the foot and pastern bones represented in vol. i. that the frog projects considerably behind the tendon or sinew, as it passes over the nut bone to be fixed into the bottom of the coffin-bone; a wound therefore in the back part of the frog, especially if the nail has passed obliquely backward, is of far less importance than when it has entered more towards the toe of the frog, and in a perpendicular direction; in this case the tendon is generally injured, and not unfrequently it is penetrated by the nail, and the coffin-joint laid open. Accidents of the latter kind often leave an incurable lameness, and in some instances have proved fatal. Horses with flat thin soles have their feet sometimes wounded with sharp flint or glass; the frog also is liable to a similar injury. Such accidents are seldom of a very serious nature, though causing for a time severe lameness. In all punctured wounds of the foot, whether they happen in the frog or in the sole, the surrounding horn, or even the whole of the bottom of the foot, in severe injuries, should be pared very thin, and the foot wrapped up in a bran poultice. In slight cases, where neither the tendon nor coffin-joint is affected, I have often found it sufficient to pare away the horn through which the nail entered, and pour into it a little tincture of benzoin or myrrh; but when the tendon has been injured, or the coffin-joint penetrated, after making the bottom of the foot very thin by means of a drawing-knife, a poultice only should be applied; and if the pain and inflammation which follow are so considerable as to quicken the pulse, and cause symptomatic fever, bleeding, opening medicines, and a diet of bran-mashes are also necessary.

In wounds of the coffin-joint the actual cautery is certainly a very improper application; in such cases the tendon is generally lacerated, and the nut-bone often bruised, so that sloughing or exfoliation of these

parts may reasonably be expected; the opening in the horny covering should, therefore, be preserved, or perhaps enlarged, that any matter which forms, or parts of the tendon or bone which separate, may pass freely off; when the pain and inflammation have in great measure subsided, compound tincture of benzoin or myrrh may be poured in, which by its stimulating quality may bring on healthy action in the diseased parts, and thereby expedite the cure: a very common termination, however, of this accident, is a stiff coffin-joint, and a certain degree of incurable lameness.

In wounds of the bottom of the foot, the horny covering often separates from the sensible parts, in consequence of the matter which is formed being interposed between them; and there being no vent for it through the horn, the matter sometimes spreads all over the bottom of the foot: in such cases the separated horn should be removed, and the sensible parts dressed with a solution of white vitriol of moderate strength, or with the compound tincture of benzoin, and afterwards covered with digestive ointment spread on tow. For the treatment of wounds on the coronet or heel, see *Over-reach* and *Treads*.

Wounds from thorns often occur both in horses and dogs: the first thing to be done is to extract carefully every part of the substance which inflicted the wound, afterwards fomentation and poultice are proper; but if these do not afford relief in a few days or a week, let a blister be applied. It has been asserted that a plaster of common pitch is effectual in such cases.

Wounds of the abdomen or belly are sometimes inflicted by the horns of cattle, or by sharp pieces of wood in going over hedges; and when the abdomen is penetrated, some part of the bowels generally comes out through the opening: when this happens,

the animal is to be thrown down and put on his back, in which position the bowel may be easily replaced; the wound is then to be stiched up, and afterwards a wide roller is to be applied with a pledget of tow over the wounded part. Such cases are often cured when seasonably attended to and properly treated; but when the bowel is suffered to remain out of the body for some time, or if it be washed with strong stimulating liquids, a common practice with farriers, the animal generally dies. When the bowel as well as the abdomen is opened, the case is highly dangerous; and the only thing to be done is to stitch up the wound in the bowel very closely, and, when it is returned, to close the wound in the abdomen as before directed.

Wounds in the intestines are generally considered mortal, and so indeed they almost uniformly prove to be, either from unskilful treatment, or from the laceration and contusion with which they are accompanied. But we learn from the experiments of Mr. Benjamin Travers, that the intestines possess a power of repairing injuries like other parts of the body, which is proved by the following experiment, and others of the same kind. An incision one inch and a half in length was made in the bowel of a dog; the wound of the integuments was closed by suture, (stitches); the animal was scarcely affected by the operation, took food as usual, and had natural evacuations. At the end of a fortnight, when perfectly recovered, he was killed for the purpose of examining the bowel, when the wound appeared to be completely healed. In the eighteenth vol. of the *Philosophical Transactions*, a similar experiment is related by Mr. W. Cooper: "An opening was made in the abdomen of a large dog, whence the small guts were extended: after an incision made in one of them according to its length, they were put back, and the wound in the abdomen stitched up, &c.; the dog re-

covered without any ill symptoms, and became perfectly well in a few days after." "The like experiment," he adds, "I have since made upon another dog, which in like manner recovered without the application of any medicine." It should be observed, that the bowel does not appear to have been stitched up when returned into the belly. The following experiment, by Mr. Travers, is still more remarkable. "A ligature of thin pack-thread was firmly tied round the duodenum (first intestine) of a dog, so as completely to obstruct it; the ends of the string were cut off, and the parts returned; the wound in the abdomen was closed, and the animal expressed no sign of suffering when the operation was concluded. On the following day he was frequently sick, and vomited some milk that had been given him: his respiration was hurried. Third day, his sickness continued, and he vomited some bilious fluid. Fifth day, he passed a copious stool of the same appearance as the fluid discharged by vomiting; his sickness from this time ceased, and his breathing was natural; he took bread and milk, and drank abundantly of water. Seventh day, he had three similar evacuations, and appeared well, eating animal food freely. Tenth day, he had a solid natural stool of a dark colour. On the fifteenth day, his cure being established, he was killed for the purpose of examining the gut." The ligature which was fastened round the intestine, Mr. Travers adds, divided the interior coats of the gut, in this respect resembling the operation of a ligature upon an artery: the peritoneal or outer coat alone maintained its integrity. The inflammation which the ligature induces on either (both sides) side of it, is terminated by the deposition of a coat of lymph, exterior to the ligature, which quickly becomes organized; when the ligature thus inclosed is liberated by the ulcerative process, it falls of ne-

cessity into the canal, and passes off by stool." See *An Inquiry into the Process of Nature in Repairing Injuries of the Intestines*, by Benjamin Travers.

In wounds of arteries, the first object in view is to put a stop to the hemorrhage or bleeding, and this may generally be accomplished by placing a bolster of soft linen or lint on the wound, and binding it firmly on with a linen roller; when the situation of the bleeding vessel will not admit of this being done, it is necessary to enlarge the wound in the integuments, so as to get at the bleeding vessel, which is to be firmly tied both above and below the wound with strong pack-thread. When an artery is cut completely through, the divided ends retract or shrink within the cellular membrane, so as to leave a considerable space between them; the bleeding in this case generally stops in a short time, and if this does not happen, it is easily accomplished by pressure: when the bleeding has been stopped, the injury is to be treated as a common wound. The blood which flows from a wounded artery is of a bright scarlet colour, and very different from that which comes from a vein: it is thrown out too with considerable force, and by jerks.

When a considerable nerve is wounded, the most distressing symptoms, and even locked jaw and death, are often the consequence. The partial division of a nerve is a more dangerous accident than if it were completely divided. On the sides of the fetlock joint, rather towards the back part, the nerve and artery which supply the foot are much exposed to injury, and when locked jaw or other alarming symptoms take place after this part has been wounded, there is reason to suspect, that the nerve has been partially divided; it is advisable, therefore, in such cases, to dissect carefully, so as to expose the nerve, and make a complete division of it. There is another pair of nerves that are liable to be wounded by

unskilful bleeding: they are named *par vagum*, and are the eighth pair which proceed from the brain: they pass down on each side the windpipe, close to a large artery, termed the carotid artery, and under the jugular or neck vein. At the upper part of the neck, where horses are usually, and ought always to be bled, that is, within three or four inches of the part where the vein forks off or divides, there is a considerable space between the vein and the nerve and artery: but in the middle of the neck, and lower down, they are much closer to each other, and when a horse is bled in this situation, with a deep fleam, struck in with violence, and by a heavy blood-stick, or by a thrust with a small sharp lancet, both artery and nerve are liable to be wounded; a wound of this nerve is, I believe, always fatal.

WRENCH. See *Strain*.

Y.

YARD; FALLEN. It sometimes happens, that a horse is incapable of drawing up the penis, and retaining it within the prepuce or sheath; this may arise either from natural weakness, or some injury of the muscles by which the penis is drawn up and kept within its sheath. The treatment consists in washing the yard well with the following cold lotion, until it is drawn up; and if this does not soon happen, it is advisable to throw the horse down and place him on his back, in which position the cold lotion should be applied until the desired effect is produced. If neither of these succeed, the penis must be washed three or four times a day with the lotion, and supported by a suitable bandage, so that the muscles may not be kept constantly on the stretch.

Lotion:—

Powdered alum, four ounces;

Water, three pints,—Mix.

YARD, FOUL. The horse's penis sometimes requires to be washed with soap and water, in order to free it from an excess of that mucous matter which is naturally formed on the part. The necessity, however, for this operation seldom happens.

YARD, MATTERING OF. See *Blennorrhœa*.

YELLOW. This disease is indicated by a yellowness, approaching sometimes to an orange colour, of the membrane which lines the eye-lids (*conjunctiva*, see *Eye*), and the inner parts of the lips and mouth. There is generally a quick pulse, great languor in the animal's appearance, want of appetite, and considerable weakness: the urine is high-coloured, and the dung generally in small knobs, and of a slimy appearance. Notwithstanding the animal's weakness, he should be bled freely: a laxative clyster is then to be thrown up, and a dose of laxative medicine given. By this treatment he is generally much relieved, looks more lively, and begins to feed again, and is gradually restored to health by attentive grooming, a light nutritious diet, such as oatmeal gruel, maltmashes, &c.: in summer green food is proper. In some cases it is necessary to bleed a second time; and if the dung continues hard, it is proper to repeat the laxative ball: a proper time, however, should be allowed for the first laxative dose to operate, and the effect of the laxative clysters should be tried before the second dose is given. When the horse looks lively, feeds well, and the pulse has become regular, the following tonic ball, given daily, may assist in the recovery of his strength:

Tonic ball:—

Salt of steel, (sulphate of iron), two drams;
Carbonate of potash, two drams;
Cascarilla bark, two drams;
Powdered caraways, half an ounce;
Syrup or treacle enough to form a ball.

Other formulæ for tonics may be seen in the veterinary *Materia Medica*, or the 2d vol. of the author's *Veterinary Medicine*.

YEW. The leaves of this tree are said to be poisonous to several quadrupeds; I found five ounces sufficient to destroy an ass in about half an hour.

Z.

ZEDOARY. This root is similar to turmeric in its medical properties: it has been recommended in jaundice, and may perhaps be an useful addition to tonic medicines in such cases, after the necessary evacuations have taken place.

ZINC. This metal affords some useful medicinal preparations, which are the sulphate of zinc, (formerly named vitriolated zinc and white vitriol,) white oxide of zinc, (formerly flowers of zinc,) and acetate of zinc. These preparations are employed internally as tonics, and externally as astringents. The acetate, however, has rarely been prescribed for the former purpose, and the white oxide as seldom for the latter. The cases in which these preparations are useful have been noticed under the respective diseases.

APPENDIX.

CHOKING. An accident that sometimes happens, particularly to cattle, in feeding greedily upon potatoes or turnips that have not been previously cut up. The best method of removing the obstruction is to introduce an instrument termed a *Probang*. (See *Probang*.) When this instrument cannot be immediately procured, a piece of whalebone or cane with a knob at one end may be substituted for it. The cane should be strong but flexible, as some force is often required; and if it were to bend too much, the desired effect could not be produced. The knob may be made by means of tow or sponge covered with soft leather, and carefully secured to the cane; this is particularly necessary when there is occasion to pass the probang some way down the œsophagus or gullet. The knob should be about the size of a pigeon's egg, and smeared with oil or hog's lard. When balls of too large a size are given to horses, they sometimes remain in the pharynx or some part of the œsophagus: the only effectual method of getting them into the stomach, is to force them down with the probang. When a horse coughs while in the act of swallowing, there is danger of some part of the food getting into the larynx; and if it is not expelled by coughing, or otherwise got rid of, suffocation will be the consequence: the smallest quantity of food, even a single grain of oats in this part, will produce the most dis-

treassing symptoms, and if not soon removed, will occasion death. I was applied to in a case of this kind; and having passed the probang without affording relief, and being satisfied from the animal's breathing, which could be heard at some distance, that there was some of the horse's food irritating the larynx, I proposed the operation of bronchotomy as the only probable means of removing it: this was not permitted until the horse was nearly suffocated. An incision was then made in the front part of the neck, so as to expose the windpipe about four inches from the larynx. An opening was then made in the windpipe, and a small piece of the cartilage cut out; a small probang, such as surgeons use, was passed up through the larynx and immediately withdrawn. The horse appeared to be much relieved immediately, and gradually recovered. A tube was at first placed in the opening that had been made in the windpipe, but this was soon removed, as it did not appear to be necessary. It was three weeks, I believe, before the opening in the windpipe was completely closed.

WORMS. Since writing this article, I have been favoured with the following communication:—"For many years my attention has been drawn to the subject of worms in horses, and at length I determined to try the oil of turpentine. The first time I tried it, was in a horse that could not be got into condition, though the digestive organs appeared to be in good order, and he had no appearance of any disease. The turpentine brought away an immense quantity of worms, and at last one which measured eleven inches and a half after it was dead and shrunk. Every time the turpentine was tried it had the same effect, where there were any worms. I have directed the farriers in this town to try it, and they say it brings off more worms than they ever saw

from physic. The turpentine seems to act in a specific manner upon worms and insects of every description. The manner in which I give it is this:—the horse is first to take a mild laxative, so as to move the bowels very gently. When the bowels are moved by the laxative, four ounces of oil of turpentine are to be given in a pint of gruel. The horse is to have but little food, either before or after, but a small quantity of lukewarm water is to be given frequently. Even botts are expelled by means of turpentine." See *Bott*.

EXPLANATION OF FRONTISPIECE,

Which exhibits a View of the Skeleton.

For this plate we are indebted to Mr. Stubbs's very accurate and elegant delineation of the subject. It is impossible to give a particular description of the skeleton without exhibiting the subject in a variety of positions, which would require several plates, and render the work expensive: I shall therefore confine my description to the most striking and important parts, particularly those which are often the seat of disease or lameness; and the processes or projecting parts, which serve as levers or pulleys to the muscles, thereby affording them a considerable mechanical advantage. Such readers as wish for a more particular description are referred to Stubbs's *Anatomy of the Horse*, a work that is, I believe, very scarce and expensive.

THE HEAD.

1. A hole through which pass a nerve and an artery. 2 2 2 2. The four crooked lines here delineated, are considered anatomically as divisions between the bones of the face, and are named Sutures. In very young subjects they are very distinct, and by soaking the head of a fœtus or very young colt, the bones which they divide may be easily separated from each other. 4. The orbit or socket of the eye. 5. The cavity above the orbit, in which appears the coronal process or a projecting part of the under jaw-bone. 7. The bone which divides the above cavities, and is sometimes fractured by a horse falling on his head. 3. The angle of the under jaw-bone, where the artery passes, by which the pulse is generally felt. 6. A protuberance in the occipital bone or back part of the head, commonly termed Knoll Bone. From this part the great ligament of the neck arises, which, passing down over the bones of the neck, is fixed into the bones of the withers.

BONES OR VERTEBRÆ OF THE NECK.

There are seven vertebræ in the horse's neck, a, the first or atlas; b, the second or dentata. These vertebræ are very different from the others, being capable of considerable motion; the first with the head and the second with the first. In consequence of this, they are much more liable to dislocation than the other vertebræ, and it is this injury which is commonly termed a Broken Neck. In such accidents the animal is instantly destroyed by the compression which the spinal marrow receives. A con-

siderable space may be observed between the first and second vertebra, which is not the case with the others. This space, marked *A*, is protected or covered only by the cervical ligament, a thin slip of muscle and skin; it is easily penetrated. Butchers are therefore enabled to destroy animals by plunging a sharp knife into it; and, as a wound in this part of the spinal marrow is almost instantly fatal, it has been considered a better method than the common one of knocking them on the head. Under the head *Poll-evil*, it has been observed that the atlas, and under surface of the cervical ligament, are in that disease generally injured, and the cause of their being affected is there pointed out. The dentata is considerably larger and of a different form from the atlas. The other five cervical vertebræ differ but little from each other, and are very firmly and closely united; they are marked *c, d, e, f, g*. The dorsal vertebræ, or bones of the back, are eighteen in number. The bodies of these vertebræ are much smaller than those of the neck, and have large upright processes or spines, which in the withers are remarkably high. In fistula of the withers these spinous processes are often diseased. The first dorsal vertebra, marked *1*, is lower and of a different shape from the rest, and from this to *11*, the height of the spinous processes may be observed to vary; from this to *18* there is but little difference. Next to these, from *18* to *24* are the lumbar vertebræ or bones of the loins. *25*. The five vertebræ which form the sacrum; these, at an early age, are formed into one bone. *26* is the coccyx, or bones of the tail, which are about *17* or *18* in number. Having described the vertebræ of the neck and spine, it is proper to observe that they are so constructed and united, as to form a secure canal for the passage of the spinal marrow, which, in its course, sends off

nerves to different parts of the body. It is unnecessary to give a particular description of the ribs; there are eighteen on each side, the first is marked a, the last r. The sternum or breast-bone is partly composed of cartilage or gristle. 1 1 1 1, or the fore part, is cartilaginous; 2 2 2 2 2 is bony. The first nine ribs articulate, that is, are joined to the sternum, and are thence named True Ribs; the other nine are united at the lower part with each other and to the first nine by cartilage, and are termed False Ribs. Fig. 2 represents the upper and wide part of the scapula or shoulder blade, and 3 its spinous process or ridge: at its lower part, 4, is a projecting process, from which a powerful muscle arises. 5. The head of the humerus or shoulder-bone, which being inserted in the socket of the shoulder-blade, forms the shoulder-joint. 6. A protuberance at the head of the humerus, in the fore part of which are two grooves. It is this protuberance which forms the projecting part of the horse's shoulder. 7. The curved process of the humerus. 8. The lower part of the humerus, where it articulates with the radius, forming the next joint of the fore limb. It should be observed, that the scapula and humerus are so placed as to form an acute angle at the shoulder-joint, which is admirably adapted to facilitate the motion of the animal; and it will generally be found that the more oblique or slanting the position of the shoulder blade is, and consequently the more acute this angle, the more extensive will be the action of the fore leg. 9, which in the plate is placed thus ω , is the olecranon or elbow; this projection affords a great advantage to the muscles which bring back the fore leg after it has been extended or advanced. 10. The radius, which forms the upper part of the horse's fore leg. 11. The knee-joint, which is composed of seven bones. 12. The seventh bone of the

knee, which projects considerably, thereby forming a favourable attachment for some of the muscles of the fore arm, and by its curved form serves to protect the nerves, blood-vessels, &c. in their passage to the lower parts of the limb. 13. The upper part of the outer small splent-bone. 13 13. The small splent-bones, the usual seat of the disease termed Splents. 14. The cannon or shank-bone. 15 15. The fetlock joints. 16. The sesamoid bones, of which there are two in each leg. The flexor tendon, or back sinew, passes over these bones, which are covered with a slippery cartilage to render the motion of the tendon easy; and by projecting beyond the fetlock joint, they serve as a lever to the flexor muscles, that is, the muscles which bend the pastern and foot. 17. The large pastern. 18. 18. The front and back part of the small pastern. 19. The navicula or nut bone. 20. The coffin-bone.

BONES OF THE HIP AND HIND LEG.

a. a. a. b. b. The left side of the bones of the pelvis or basin-bone, which, indeed, consists only of one large, rather circular bone, with several projecting parts. b b. The upper part or spine. a a. The lower parts. The first *a* represents the part where the bone is sometimes fractured; when this happens, a horse is said to have his hip knocked down. c. The outside of the left hip joint. e. A projecting part, named Ischium or hitch-bone. f. The femur or thigh bone. d. A considerable protuberance at its upper extremity, from which a powerful muscle arises. g g. The right and left patella or knee-pan. h. The stifle joint. Within this joint are slippery cartilages, named from their form Semilunar; these cartilages give great facility to the motion of the stifle joint. These joints are secured by peculiar ligaments named

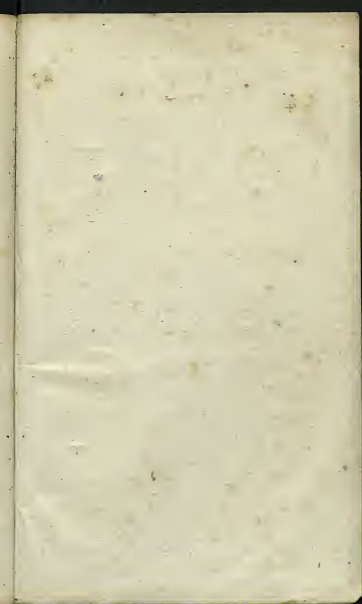
Crucial, from their shape. It must be obvious that the patella, from its form and situation, affords great advantage to the muscles of the thigh. i i. The right and left tibia, which, in the horse is generally considered as the thigh-bone. k. A small bone named Fibula. l. The os calcis, calcaneum, or hock-bone. This is a very important part, forming one of the most considerable levers in the skeleton. m. Another large bone of the hock joint, formed somewhat like a pulley. The motion of the joint depends principally upon this bone, which is named Astragalus. n, n, n. The outside and inside of the small bones of the hock joint. The inside n. shows the seat of bone spavin, and higher n. of the same leg, points out the seat of bog spavin. o. The hind shank or cannon-bone. p. The outer splent-bone. r. The fetlock joint. q. The sesamoid bones. s t. The large and small pastern-bones. u. The coffin-bone.

ERRATA.

Page 43. l. 2. After *sublimata*, add, 'but when this is employed the liquid ammonia is to be omitted.'

Page 144. l. 17. For *upper* read *under*.

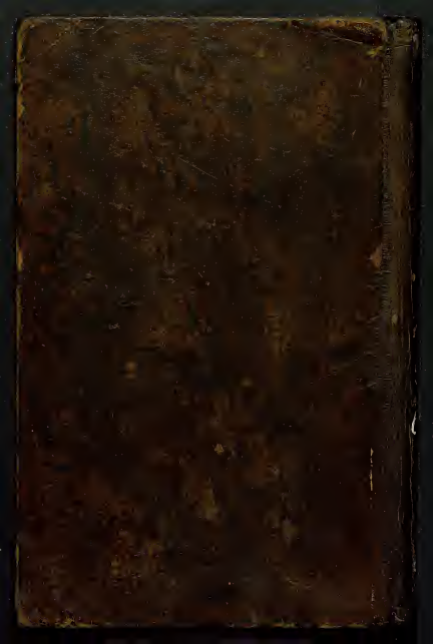
THE END.



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